

**CHANGE**

U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

6430.2 CHG 32

7/8/91

SUBJ: MINUTES OF DOD/FAA JOINT RADAR PLANNING GROUP (JRPG)

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1. PURPOSE. This change transmits Attachment 74 to agency Order 6430.2. This attachment is the minutes of JRPG meeting number 74, conducted February 12-14, 1991.
2. FILING INSTRUCTIONS. File this attachment immediately following attachment 73 of this order.



David F. Morse  
Director, Systems Maintenance Service

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Distribution: A-W(NR/CS/TR/SE/AC/SM)-3;  
A-X(AF/AT)-3; A-FAF-3(SUPV); A-FAT-1(SUPV)  
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7/8/91

6430.2 CHG 32  
Attachment 74

MINUTES OF DOD/FAA JOINT RADAR PLANNING GROUP (JRPG) #74

FEBRUARY 12-14, 1991

JACKSONVILLE, FL



TABLE OF CONTENTS

	<u>Page</u>
1. ADMINISTRATIVE ITEMS	1
a. 1990 JRPG Formal Meeting	1
b. JRPG #74 Attendees	1
c. DOD/FAA Address List	1
d. FAA Regional JRPG Coordinators	1
e. Logistics Subgroup Meeting #52	1
f. Radar Network Subgroup	1
g. Dates for 1991 JRPG Meetings	1
2. JRPG GENERAL	1
a. Coordination	1
b. Briefings	2
c. Safety Inspections	3
3. RADAR EVALUATION/INSPECTION/ANALYSIS/CERTIFICATION	4
a. Joint Radar Evaluation Procedures	4
b. MIM Checklist	4
c. Technical Inspection Handbook (6040.6X)	4
d. Joint Flight Inspection Manual Revision (6340.X)	4
e. Interagency Ground Inspection Manual Revision (6000.6)	4
f. Beacon RADHAZ	5
g. RADES Issues	5

	<u>Page</u>
4. MAJOR PROGRAMS	6
a. FARR Program	6
b. Key West, FL, 3D Radar	7
c. FIRRS Rekeying	7
d. New MOA to Replace NAT-614 in the ARSR-4 Timeframe	7
5. JOINT USE SITES	8
a. Data Tie Sites	8
(1) Whidbey Island FACSFAC	8
(2) Virginia Capes FACSFAC	8
b. Site Configurations	8
c. Military Only (CONUS)	8
d. Hawaii	9
(1) Guam Range Extension	9
(2) Kokee Beacon Improvements	9
(3) Pearl Harbor FACSFAC	9
(4) MOA-PACAF/HIANG/FAA	9
e. Alaska	10
(1) Murphy Dome	10
(2) FPS-117 Beacon Modification	10
(3) FPS-117 Radar Service Performance	10
(4) Indian Mt./Ft. Yukon	10
f. Specific Issues	10
(1) North Truro, MA	10
(2) Combined Site Drawings	11

7/8/91

6430.2 CHG 32  
Attachment 74

	<u>Page</u>
6. EQUIPMENT	11
a. CD-2 Schedule	11
b. Removal of OA-3751 from Joint Use Sites	11
c. MIG/MIM at Sites without HFR and Mode 4	11
d. UPA-62 Installation	12
e. HFR Cease Operations/Reduced Watch Coverage	12
f. FAA Remote Maintenance Monitoring (RMM)	13
g. Radios	13
(1) Juniper/Hart	13
(2) Flight Check of U.S. Customs Service Radios	14
(3) Secure UHF Radios	14
(4) Keno Radio Relocation	14
(5) Solid State Vane Switch-GRT	14
(6) Ft. Fisher, NC	14
(7) FAA Technician Radio Training	14
(8) Operational Status of Deactivated G/A/G Radios at JSS Sites	15
(9) Bench Stock Deletion	15
h. Radar	15
(1) IF Amplifier	15
(2) Three Level Weather Modification	15
(3) SSR/DMTI Modification	15
7. LOGISTICS	15
a. Supply Priorities	15

	<u>Page</u>
b. FPS-117 Supply Priorities	16
c. Logistics Technicians at Sites without HFR	16
d. Transfer of Radars to FAA	16
e. Maintenance of Technical Order File	16
f. FAA Maintenance of Air Force Records/Forms (AFTO Form 95)	16
g. Tyndall Account	17
8. COMMUNICATIONS	17
a. Full Communications Service (FCS)	17
b. GRC-171 Interconnectivity Wiring	17
c. USAF Frequency Changes	17
d. FAA Maintenance of FCS Equipment	17
e. Data Restoration/Trouble Shooting of TELCO Lines	17
f. Radio Communication Link (RCL)	18
g. Radar Demarcation Point at Joint Use Sites	18
h. Telephone Requirements at Joint Use Sites	18
9. SECURITY	18
a. Security Surveys	18
b. COMSEC Security	18
c. COMSEC Custodian Reimbursement	18
d. Unescorted Site Access	18
10. OPERATIONS	19
a. Autonomous Operations	19
b. Meteor Burst at Joint Use Sites	19
c. Single Point of Contact	19

7/8/91

6430.2 CHG 32  
Attachment 74

	<u>Page</u>
d. Search Data Rate Control during Unattended Operations	19
e. Common Language for FAA System Engineer and USAF Data Quality Monitor	19
f. Navy Jamming	20
g. Tuning of USAF Radios to Unauthorized Frequencies	20
11. STAFFING	20
a. Site Manning under IWF	20
b. Coordination before Reduction of Staffing	20
c. Advance Notification for 24 Hour Watch Coverage at Reduced Watch Sites during Live Flying Exercises	20
12. SIGNATURE PAGE	21



1. ADMINISTRATIVE ITEMS

a. FAA hosted the 74th formal meeting of the JRPG in Jacksonville, Florida, during the week of February 12, 1991. This meeting was deferred from November 1990 because of fiscal restraints at the beginning of FY-91.

b. The list of attendees at JRPG #74 is at Attachment 1.

c. A current DOD/FAA address list is at Attachment 2.

d. An updated list of FAA Regional JRPG Coordinators is at Attachment 3.

e. Logistics Subgroup Meeting #52 was conducted at the FAA Logistics Center March 6, 1991. Minutes of that meeting are at Attachment 4. The new FAA Logistics Subgroup Cochairman is Mr. Randy Means, AAC-481.

f. The Radar Networking Subgroup Cochairmen are: DOD - Major Mark Noble, IAF/DOYE; FAA - Mrs. Ardyth Williams, ATR-120. The Radar Networking Subgroup met October 25, 1990, and finalized the delivery schedule for ARSR-4 radars. This schedule (Attachment 5) was provided to the JRPG Cochairmen for coordination with the FARR Program Office.

g. The dates for the next JRPG are:

In-House JRPG            October 8-11, 1991

\*Formal JRPG             November 19-22, 1991

\*The JRPG formal meeting for 1991 will be hosted by the DOD.

The following items document discussions during JRPG meeting #74. Items preceded by references were items discussed in previous JRPG meetings. The first two digits in each reference indicate the meeting number, and the alphanumeric after the hyphen indicate the paragraph in those particular JRPG minutes. Those items without reference are new items discussed by the JRPG. Several action items are closed, yet some minor actions remain to be completed. OPR's assigned are as indicated and are responsible for ensuring remaining actions are completed.

2. JRPG GENERAL

a. Item 73-2.b, 72-2.c, 71-2.c, 70-2.b, 69-2.c(1): Coordination.

(1) The JRPG cochairmen emphasized the need for coordination, communication, and cooperation. All personnel associated with the joint use program must understand that site requirements are not controlled by any party as separate entities and that JRPG policy dictates that any action which affects a joint use site must be coordinated with all concerned. Although coordination has improved significantly over the last few years, there have been several instances where we (USAF, FAA, Navy, and contractors) failed to inform our counterparts and/or headquarters. The following actual incidents are examples of uncoordinated actions that had a serious impact on other users' missions:

- Detroit - Communications equipment relocated.
- Citronelle - Data converter box replaced to accommodate an external user.
- Nashwauk - Telephone contractor installed a device without coordination.
- Key West - Deviated from radar-commissioned settings.
- PACAF/Alaska - Unilateral decision to cease operations of two sites.

All JRPG parties have the responsibility to formally submit (to their respective counterparts and/or headquarters) any intent to change/modify/alter joint use site configurations/operating procedures, etc.

OPR: FAA/ASM-103; TAC/XPPF Closed

(2) Updated FAA/USAF/Navy JRPG coordination chain and problem solving flow diagrams are at Attachment 6. These diagrams replace those contained in JRPG 73, Attachment 6.

OPR: All Closed

b. Briefings. The following briefings were provided during JRPG #74:

(1) Review of Last Year's JTI's. The 1AF presented a review of last year's JTI's. Continued improvement in the standardization of completion of the reports was noted.

(2) Alaska Issues. Reorganization by USAF has resulted in Alaska Air Command becoming 11th Air Force under Pacific Air Command. For JRPG purposes, sites in Alaska will continue to be addressed as Alaskan issues vice PACAF. Lt. Col. Parks, 11AF/LGK, provided a briefing on site coverage and the status of the radar modifications. Briefing is at Attachment 7.

(3) Periodic Radar Evaluation Program (PREP). The 84th RADES provided an updated briefing on the continuous evaluation program (formerly known as PACE) now identified as PREP. The briefing is at Attachment 8.

(4) PSA's. PSA updates on FARR implementation, height finder removals, and radio relocations/reconfigurations were provided by 1845 EEG and are at Attachment 9.

(5) RCIU/RMM. Nine evaluations of FAA's remote control interface unit and remote maintenance monitoring have been conducted by 84th RADES. Details of results and recommendations are provided in the briefing at Attachment 10.

(6) Common Digitizer (CD-2). Synopsis of CD-2 briefings is at Attachment 11.

(a) The 84th RADES provided status update on clutter processing modifications to CD-2 and the development of the new LE curve modifications. Final testing of the clutter processor modification is scheduled for March 6-22, 1991. The newly developed 84 RADES LE curves will be tested after FAA prepares new Proms.

(b) First Air Force/DOY provided an update on the commissioning of CD-2 for full joint use (FAA's ARTCC and USAF's SOCC). Commissioning may occur after resolution of the clutter processing modification, implementation of approved LE/DF curves, and within those constraints in JRPG Minutes #72.

(c) FAA ANR-110 provided status of supply support and the modifications required for remote maintenance monitoring of CD-2. A formal briefing with slides was not provided.

(7) JSS Radio Upgrade Programs. USAF's G-A-G radios are projected to undergo several upgrades that will result in major site equipment configuration changes. First Air Force/SCX provided the briefing at Attachment 12 that addresses these upgrades.

(8) FIRRS. USAF is developing a system to remotely rekey crypto devices eliminating the requirement for onsite manual rekey. A status briefing was presented by HQ TAC/DRCS and is at Attachment 13.

(9) JSS Security Enhancements Requirements/Status. The physical site security required at JSS sites with Mode IV and less than 24-hour watch standing was briefed by HQ TAC/DESR. Status of ongoing projects is at Attachment 14. Site security requirements after FARR (ARSR-4) installation are defined by APS-320 memorandum dated 7/19/89, subject: Physical Security Design Criteria for FAA/Air Force Radar Replacement (FARR) Program.

(10) FARR. The FARR Joint Program Office (JPO) provided a status update on the FARR program. A revised site schedule/location is provided in part A of the briefings at Attachment 15. Issues on the finalization of a test site are provided in part B.

(11) Site Settings. Concerns over non-standard site parameter settings were briefed by USAF and the results graphically depicted by the 84th RADES. Briefings are at Attachment 16.

(12) Staffing. USAF expressed concern over FAA's apparent shortage of qualified technicians at JSS sites. The DOD cochairman briefed the staffing requirements of NAT-614. The subject briefing is at Attachment 17.

c. Safety Inspections. FAA asked if there still is a requirement for joint ground safety inspections at joint use sites with no DOD personnel present. USAF replied there was no longer a requirement; however, the USAF must investigate any damage to USAF equipment, facilities, or material where total repair or

7/8/91

replacement cost is at least \$2,000. The FAA must notify the appropriate Air Defense Sector Safety Office in case of a mishap. Attachment 66 to 6430.2 CHG 24 has been revised and is included at Attachment 18.

OPR: FAA/ASM-103; TAC/XPPF Closed

3. RADAR EVALUATION/INSPECTION/ANALYSIS/CERTIFICATION

a. Item 73-3.a, 72-3.a, 71-3.a, 70-2.c, 69-2.e, 68-2.a, 67-2.b, 66-3.d, 65-3.d, 64-2.m, 63-4.a(5): Joint Radar Evaluation Procedures. Order 6430.7, FAA Long Range Radar (LRR) Evaluation Plan for Joint Use Facilities, was signed June 11, 1990, and distributed.

OPR: FAA/ASM-630 Closed

b. Item 73-3.b, 72-3.b, 71-3.b(1), 70-2.d(1), 69-2.f(1), 68-2.g(2), 67-3.o(3): MIM Checklist. The change to Order 6340.13A CHAPTER 3 incorporating a modified MIM checklist at sites without HFR and sites without HFR and MODE 4 was signed August 8, 1990, and distributed.

OPR: FAA/ASM-630 Closed

c. Item 73.c, 72-3.c, 71-3.b(3), 70-2.d(4), 69-2.f(5): Technical Inspection Handbook(6040.6X). Handbook 6040.6D was not published in 1989. Reorganization within FAA caused further delays. A review of the proposed final draft by USAF revealed several discrepancies between the previous draft and the final document. All discrepancies have been resolved except the frequency of periodic inspections for joint use. This issue will be resolved and, if necessary, a change to the new manual will be published.

OPR: FAA/ASM-120 Open

d. Item 73-3.d, 72-3.d, 71-3.c, 70-2.e, 69-2.9: Joint Flight Inspection Manual Revision (6340.X). The Oklahoma City, OK, test on ARSR-3, ARSR-2, and ASR-9 equipment was not completed. The effort to prepare a Flight Inspection Manual for FAA technicians has been assumed by the Radar Engineering Branch, ASM-630. The draft document will be available for coordination in March.

OPR: FAA/ASM-630 Open

e. Item 73-3.e, 72-3.e, 71-3.d, 70-2.f, 69-2.h, 68-2.aa, 67-3.bb: Interagency Ground Inspection Manual Revision (6000.6).

(1) DOD completed its review of the revised document and in a May 11, 1990, letter determined the manual should not be published because of the difference in system designs and the difficulty in keeping the manual current because of the many equipment upgrades, modifications, and replacements that occur. Accordingly, no further work will be accomplished on publishing this document.

OPR: FAA/ASM-120 Closed

(2) Draft Order 6000.1C, Certification and Operation of Military Maintained Air Navigation Facilities in the National Airspace System, is presently in coordination. This will replace 6000.6 (above) and will contain the policy for inspection and certification of military maintained facilities used in the NAS.

OPR: FAA/ASM-120 Open

f. Item 73-3.f: Beacon RADHAZ. The 1845 EEG provided information in a January 16, 1990, report stating there is no radiation hazard when operating beacon only. Copy of the letter and report are at Attachment 19.

OPR: 1845 EEG Closed

g. Item 73-3.h RADES Issues.

(1) FAA has not had to provide flight support this past year because of the inability of Flight International aircraft to complete radar evaluations. FAA will continue to respond, if required, to requests to provide flight assistance.

OPR: FAA Regions Closed

(2) Because of the difficulty in obtaining radar down time at operational sites, 84 RADES will investigate various alternatives to obtain personnel training, i.e., FAA Oklahoma City or Technical Center equipment or at USAF maintained sites. There are no training requirements at this time, and future needs will be coordinated on a case-by-case basis.

OPR: 84 RADES Closed

(3) FAA granted permanent waiver of tuition costs for 84 RADES technicians taking training courses at the FAA Academy. The FAA Office of Budget, ABU-1, granted this approval April 2, 1990.

OPR: FAA/ASM-103 Closed

(4) The data collection effort by 84 RADES has been completed at all data tie sites. The remaining joint use sites will be completed after ARSR-4 installation.

OPR: 84 RADES Closed

(5) The procedures for requesting 84 RADES evaluations as stated in JRPG #73 minutes remain in effect and should be followed when evaluations are required.

OPR: FAA Regions Closed

(6) FAA requested 84 RADES provide its schedule for a radar evaluation to the affected FAA radar site in addition to the regional office.

OPR: 84 RADES Closed

7/8/91

(7) During radar evaluations, there may be requirements for personnel (USAF and FAA) to work overtime to complete test portions. The historical precedent and policy on overtime is that each organization will be responsible for providing overtime compensation for its employees.

OPR: ASM-103; TAC/XPPF Closed

(8) 84 RADES investigated lowering primary radar tilt angles at Oilton and El Paso, TX, to determine if low altitude coverage could be improved. The results showed Oilton coverage would not be improved, but El Paso could. Accordingly, a full baseline/commissioning evaluation will be conducted at El Paso in May.

OPR: 84 RADES; FAA ASW Open

(9) 84 RADES plans to interface directly with radar users in the future as part of an emphasis on comprehensive pre-planning. This includes meeting personally with radar data users to determine their operational requirements. Coverage requirements, threat scenarios, areas of concern, projected site changes, environmental conditions, report format, and product requirements will all be discussed. By meeting directly with radar system users, 84 RADES will be better able to tailor its services to meet all needs scientifically, expeditiously, and accurately. Although all users' requirements will be considered, priority must be given to FAA and Air Defense missions.

OPR: 84 RADES Closed

#### 4. MAJOR PROGRAMS

a. Item 73-4.a, 72-4.a, 71-4.a, 70-2.h, 69-2.j(1), 68-2.c(1), 67-2.f, 66-3.t, 64-3.j: FARR Program.

(1) NCP 12111 to relocate the Gibbsboro, NJ, FPS-117 radar to Murphy Dome, AK, was approved January 17, 1990.

OPR: ANR-140 Closed

(2) NCP 12209 which changes the NAS System Specification to incorporate the JRPG recommended ARSR-4 locations along the southwest border of the U.S. was approved May 2, 1990.

OPR: ANR-140 Closed

(3) The recommended locations for the following joint use sites - Gibbsboro, NJ, Whitehouse, FL, Bucks Harbor, ME, Malmstrom, MT, and Lakeside, MT, - require JRPG radar subgroup review and approval.

OPR: FAA/ANR-140; HQ 1AF/DOY Open

7/8/91

6430.2 CHG 32  
Attachment 74

(4) The PACAF request for an ARSR-4 for Mt. Kokee remains an open issue because of funding.

OPR: FAA/ANR-140 Open

b. Item 73-4.b, 72-4.b, 71-4.b: Key West, FL, 3D Radar.

(1) The Memorandum of Agreement (subagreement NAT-855 to NAT-712) for procurement of two additional ARSR-4 systems for the U.S. Navy was signed November 7, 1990. The agreement for logistics and training support for these two systems is being worked in FAA.

OPR: FAA/ANR-240; COMNAVAIR 5515 Open

(2) The Navy 3D radar working subgroup will reconvene to resolve operational and maintenance philosophies and procedures for Key West, FL. The new DOD cochairperson is Ms. Dorothy Fields (AIR 5515-2D).

OPR: FAA/ASO-465; Open  
DOD/NAVAIR 5515-2D

(3) The Key West HFR ceased operations on September 30, 1990. The HFR tower will be demolished. USAF radios must be relocated before the tower can be removed.

OPR: DOD/1845 EEG Open

c. FIRRS Rekeying. The USAF asked if FAA would continue to rekey MODE IV equipment at ARSR-4 sites as long as they are manned. FAA responded they would staff the issue when formally requested for this activity. HQ/TAC/XPPF will submit a letter to FAA.

OPR: HQ TAC/XPPF Open

d. New MOA to Replace NAT-614 in the ARSR-4 Timeframe. The JRPG cochairmen expressed the need for a new MOA to replace NAT-614 in the ARSR-4 timeframe. This document will need to specify such areas as reimbursement, response time/callback, staffing, etc. A formal request for participation by the cochairmen will establish a working group to draft the document with the goal of having a signed agreement in place before commissioning the FARR equipment.

OPR: FAA/ASM-103; HQ TAC/XPPF Open

7/8/91

5. JOINT USE SITES

a. Data Tie Sites

(1) Item 73-5.a(1), 72-5.a(3), 71-5.f(1): Whidbey Island FACSAC.

(a) The requirement for additional radar data input for Whidbey Island FACSAC is on hold pending a decision by CNO on the future of that facility.

OPR: NAVELEX, Charleston                      Open

(b) The U.S. Navy request to use FAA's RCL system to receive data at Whidbey Island FACSAC is on hold for the same reason as above.

OPR: COMNAVAIR                                      Open

(2) Item 73-5.a(2): Virginia Capes FACSAC. A data tie was established between the No. Truro, MA, joint use site and Virginia Capes FACSAC through the Boston ARTCC on an "as is" basis. The MOA has not been finalized.

OPR: FAA/ANE-462; NAVAIR-5515              Open

b. Item 73-5.a, 72-5.b, 71-5.b, 69-2.r(5), 68-2.e(9): Site Configurations.

(1) An updated list of joint use site configurations is at Attachment 20. An updated survey of data ties/services provided at joint use sites is at Attachment 21.

OPR: TAC/XPPF; FAA/ASM-103                      Closed

(2) New boundaries for the SE AD Sector transitioned the Oilton, TX, site to the SW AD Sector. The site remains in the FAA Southwest Region.

c. Military Only (CONUS)

(1) Item 73-5.c(1), 72-5.c, 71-5c(2), 70-2.m(2), 69-2.0(2), 68-2.z(2), 67-3.gg: FAA Assumption of Maintenance at Military Only Sites. The Makah, WA, joint use site was commissioned into the Seattle ARTCC and the NW AD Sector SOCC on March 9, 1990.

OPR: FAA/ANM-462; NW AD Sector              Closed

(2) Gibbsboro, NJ.

(a) The planning document for transfer of the Gibbsboro, NJ, radar site was signed July 24, 1990, and is included at Attachment 22.

OPR: FAA/ASM-103; HQ TAC/XPPF              Closed

7/8/91

6430.2 CHG 32  
Attachment 74

(b) A data tie from FAA's Trevose, PA, radar will allow the USAF to cease operations of the ANFPS-117 radar at Gibbsboro on September 30, 1991, thereby avoiding exercising the third year O&M contract option. Since this radar will be reinstalled at Murphy Dome, Alaska, several agencies/projects are impacted. HQ TAC/DRCS will act as the point of contact for the coordination between various agencies.

OPR: TAC/DRCS Open

(3) Lake Charles, LA. The planning document for transfer of the Lake Charles, LA, radar site from USAF to FAA is being prepared by the FAA Southwest Region.

OPR: FAA/ASW-463 Open

d. Hawaii

(1) Item 73-5.d(1), 72-5.d(1), 71-5.d(1), 70-2.n(1), 69-2.p(3): Guam Range Extension. Angel Peak, NV, delay lines will be available March 31, 1991, for shipment to Mt. Santa Rosa, Guam.

OPR: FAA/AWP-423.33 Open

(2) Item 73-5.d(2), 72-5.d(2), 71-5.d(2), 70-2.n(2), 69-2.p(5): Kokee Beacon Improvements. Funds for purchase of engine generator for Mt. Kokee, HI, have been provided. No date is available for delivery of generator.

OPR: FAA/AWP-423.33; ANS-230 Open

(3) Item 73-5.d(3), 72-5.d(3): Pearl Harbor FACSAC. The MOA between FACSAC, San Diego, and FAA/AWP is being rewritten. FACSAC, San Diego, is preparing a reimbursable agreement for Navy use of spare communications channels on the Diamond Head to Mt. Kaala microwave link. Once the MOA is signed and funds become available, the Navy would like to proceed with connectivity to the system.

OPR: FAA/AWP-423.33; FACSAC, San Diego Open

(4) Item 73-5.d(4): MOA - PACAF/HIANG/FAA. The MOA is being staffed for signature.

OPR: FAA/AWP-423.33; PACAF/DOQZ Open  
6010 AERODG/DOG; 154 COMPG/MAI

7/8/91

e. Alaska

(1) Item 73-5.e(1), 72-5.e(1), 71-5.e(1), 70-2.0(3), 69-2.9(6), 68-2.h(9), 67-3.i(9): Murphy Dome. The contract for the second buy of SSR/DMTI kits was awarded December 1989. A kit for Murphy Dome is included, and the completion of installation is scheduled for November 1991.

OPR: FAA/ANR-110 Closed

(2) Item 73-5.e(2), 72-5.e(2), 71-5.e(2), 70-2.0(4), 69-2.g(9), 68-2.h(12): FPS-117 Beacon Modification. The contract award for the beacon modification is planned for October 1991. There still is \$1 million difference between GE's proposal and the funds available. A resolution of this difference is being attempted by SM-ALC, GE, and FAA. Recent initiatives to test certification of 5 mile beacon separation by FAA Alaskan Region Air Traffic may negate the requirement for beacon modification, and the beacon contract effort will be terminated.

OPR: FAA/ANR-110; SM-ALC/LHSBM Open

(3) Item 73-5.e(3), 72-2.d(3): FPS-117 Radar Service Performance. A joint USAF/FAA beacon only evaluation was conducted at King Salmon in July 1990. Baseline evaluations for the four sites previously identified are scheduled for the summer of 1991. Radar degrade procedures are being developed by GE for SM-ALC. These procedures will be tested via a dry run on SM-ALC's FPS-117 facility before incorporation into the evaluation plan for Alaska radars.

OPR: 84 RADES; FAA/AAL-461; Open  
11AF/LGMK; SM-ALC

(4) Indian Mt./Ft. Yukon. Faced with budget constraints, PACAF does not have funds to continue operation of Indian Mountain and Fort Yukon after FY-92. FAA Alaskan Region has forwarded a proposal to FAA Washington recommending FAA take over O&M costs after FY-92. The proposal is being evaluated by ASM-200.

OPR: FAA/AAL-461; ASM-230; ATR-120 Open

f. Specific Issues

(1) Item 73-5.f(1), 72-5.f(4), 71-5.c(1), 70-2m(1), 69-2.0(1), 68-2.z(1), 67-3ff: North Truro, MA.

(a) The contract for environmental cleanup work is completed. A contract for two additional items outside of the area being transitioned to FAA will be awarded in June 1991.

OPR: NE AD Sector/DE Closed

(b) The contract for security enhancements was awarded December 1990, with completion expected July 1991. The contract for construction of a storage building was awarded December 1990 with completion expected July 1991.

OPR: NE AD Sector/DE Closed

(2) Combined Site Drawings. Two methods of site drawings are now required by FAA and USAF. 1845 EEG will address the issue of a composite drawing for FARR implementation.

OPR: 1845 EEG Open

## 6. EQUIPMENT

a. Item 73-6.a, 72-6.a, 71-6.a, 70-2.r, 69-2.t, 68-2.w(8): CD-2 Schedule.

(1) Final evaluation of the results of 84 RADES search data rate testing has not been completed by IAF/DOY. ASM-420 is continuing to evaluate LE curve improvements. Clutter processing modifications have been tested at Oskaloosa, Coopersville, Oklahoma City, and Paso Robles.

OPR: IAF/DOY; TAC-DOY; FAA/ASM-420 Open

(2) Procedures for commissioning CD-2 into the SOCC remain as presented in JRPG-#73 minutes.

OPR: FAA Regions; 84 RADES Closed

(3) No work was accomplished on establishing FAA/USAF remote control and status feedback requirements for CD-2 RMM. This is an effort that needs to be completed, and the JRPG cochairmen reemphasized the necessity for the 84 RADES, FAA ASM-420, and IAF/DOY to work together to define the requirements.

OPR: 84 RADES; IAF/DOY; ASM-420 Open

b. Item 73-6.b, 72-6.b, 71-6.b: Removal of OA-3751 from Joint Use Sites.  
The OA-3751 was removed from Richmond, FL, September 1990 with the AN/FPS-116 HFR.

OPR: 1845 EEG Closed

c. Item 73-6.c, 72-6.c, 71-6.c: MIG/MIM at Sites without HFR and Mode 4.

(1) USAF determined there will not be a communications adapter provided to replace the MIG or MIM at joint use sites.

OPR: IAF/SCX Closed

7/8/91

(2) The EEM to disable HFR and Mode 4 alarms was installed at Nashauk, MN. To permit the modification to operate correctly, one step was deleted, and a line signal detection (LSD) device was installed by TELCO. The modification Order 6340.14, Chapter 89, Change 108, has been signed and distributed. IAF/SCO is investigating requirements for an LSD at other locations.

OPR: IAF/SCO Open

(3) No one is pursuing a replacement device to be used when power is turned off to the MIG (see item (1) above).

OPR: IAF/SCX Closed

(4) MIG Bucket Power Off Drop Out (CD-2). A problem was reported that when the MIG is turned off, it comes back up on the off-line channel causing a 40 second delay in receiving data. This will be investigated by ASM-410 to determine if a software change is needed or if it is just a familiarization problem.

OPR: FAA/ASM-420 Open

(5) USAF Requirement for the ARSR-3 MIM. USAF reaffirmed the requirement for ARSR-3 MIM to meet USAF data requirements until decommissioning of joint use ARSR-3 systems.

OPR: ASM-103 Closed

d. Item 73-6.d, 72-6.d, 71-6.d, 70-2.s, 69-2.u, 68-2.w(6): UPA-62 installation. UPA-62 equipment was installed at Oceana, Key West, and Ft. Lonesome. FAA's request to retain UPA-62 equipment at Jedburg, Tyndall, Cross City, and Whitehouse was disapproved, and the assets will be returned to SM-ALC. However, FAA requested if UPA-62's become available in the future, they are needed at the four sites listed above.

OPR: SM-ALC/IAF/LGK;  
FAA/ASO-424 Closed

e. Item 73-6.e(1), 72-6.e(1), 71-6.e(1), 70-2.w(2): HFR (Cease Operations/Reduced Watch Coverage).

(1) The final six HFR sites ceased operation on September 30, 1990: (Oceana, VA; Jedburg, SC; Ft. Lonesome, Cross City, Tyndall, Key West, FL)

OPR: IAF/DOY Closed

(2) The procedures FAA has to follow when requesting less than 24 hour watch coverage at sites without HFR are contained in JRPG #73 minutes, Attachment 13.

OPR: FAA Regions Closed

7/8/91

6430.2 CHG 32  
Attachment 74

(3) USAF requested a list from FAA of all joint use sites operating with less than 24 hour watch coverage. ASM-103 will request this information from the regions. USAF also reminded FAA of the requirement to formally request, through the appropriate AD Sector, when sites are planning to go to reduced watch. This item will also be emphasized to the regions.

OPR: FAA/ASM-103

Open

f. Item 73-6.f, 72-6.f, 71-6.f, 70-2.x, 69-2.bb(3), 68-2.w(9). FAA Remote Maintenance Monitoring (RMM).

(1) NCP #10616 to authorize FYQ-47 normal ACE curve selection was approved and distributed as EEM 6350.11, CHG 78, Chapter 83, on February 7, 1991. This change allows parallel strapping of the normal ACE and sensitive ACE function for FYQ-47's with an RCIU. After installation, System Engineers will have remote control of ACE functions.

OPR: FAA/ASM-410

Closed

(2) CD-2 Interim RMM (IRMM) kits are available and can be ordered for EEM 6350.23, CHG 18, dated August 9, 1990.

OPR: FAA/ASM-410

Closed

(3) CD-2 full RMM is a repeat of item 6a(3). It will be tracked under that item hereafter.

Closed

(4) ARSR-3 limited RMM evaluations have been completed by 84 RADES at Ft. Lonesome, FL, and Cross City, FL.

OPR: 84 RADES

Closed

(5) ARSR-3 full RMM smart function is not usable at joint use sites until evaluated by a joint 84 RADES/FAA team.

OPR: 84 RADES/ASM-420

Open

g. Radios

(1) Item 73-6.g(1), 72-6.g(2), 70-2.y(4), 69-2.aa(9): Juniper/Hart. An agreement was negotiated between NWAD Sector, the Air National Guard (ANG), and FAA to install some radios at the Lake View VOR site. Subject radios will be transferred to the ANG for maintenance and support with joint use by NWAD Sector and the ANG. Antenna platform for radio antennas has been completed. Five sets

7/8/91

of radios from Kalispell, MT, have been provided for transfer. Radios and antennas have been installed and are awaiting communications connectivity. Target date for completion is summer 1991.

OPR: NWADS/LGK; 1AF/SCO                      Closed  
      HQ TAC/SCPCL

(2) FAA asked how U.S. Customs Service planned to flight check their radios at joint use sites to determine extent of coverage. USCS stated they were working with 1845 EEG on this and would provide a reply.

OPR: USCS; 1845 EEG                              Open

(3) Item 73-6.g(5): Secure UHF Radios. FAA is awaiting the engineering package to determine the amount of space required/available for modems and a static matrix unit at each site. The package should be available February 1991.

OPR: 1AF/SCO                                      Closed

(4) Item 73-6.g(6): Keno Radio Relocation. USAF efforts to relocate UHF radios from the GATR building to the search tower are progressing. The PSA is being rewritten to indicate antennas will be mounted on poles. Completion is expected 1st qtr FY-92. Questions of continuing maintenance/support of the GATR building must be addressed and resolved by FAA Northwest Mountain Region, USAF, and Bureau of Land Management.

OPR: FAA/ANM-464D                              Closed  
      NW AD Sector/LGK;1845 EEG

(5) Item 73-6.g(7) Solid State Vane Switch-GRT. First Air Force has elected to pursue installation of the solid state switch for rivet switch radios. Instructions were provided to each AD Sector to proceed with requisitioning of parts. Detailed guidance will be provided by 1AF/LGK regarding implementation of this modification.

OPR: 1AF/LGK                                      Closed

(6) Item 73-6.g(8): Ft. Fisher, NC. U.S. Navy radios and antennas have been installed at Ft. Fisher, NC. The MOA has been prepared. Review by JRPG Cochairmen indicated some changes may be required.

OPR: FAA/ASO-465; SE Sector/LGK              Open  
      Virginia Capes FACSFAC  
      1AF/LGK; ASM-103; TAC-XPPF

(7) FAA Technician Radio Training. The USAF technical training course on the rivet switch single channel radio at Keesler AFB has been discontinued. Training for FAA is available at FAA Academy (Course number 47502). AN/GRC-171 transceiver training is still being conducted at Keesler AFB.

OPR: FAA Regions                              Closed

7/8/91

6430.2 CHG 32  
Attachment 74

(8) Operational Status of Deactivated G/A/G Radios at JSS Sites. USAF advised deactivated radios must be kept in a power on condition to reduce likelihood of corrosion, parts removal, integrity, etc.

OPR: FAA Regions Closed

(9) Bench Stock Deletion. NW AD Sector inquired whether G/A/G bench stock could be deleted at the site and moved to the sector when there is little usage. IAF replied that bench stock will be maintained at the site per NAT-614 and JRPG Ground Rules.

OPR: NW AD Sector; IAF/LGK Closed

#### h. Radar

(1) Item 73-6.k, 72-6.l: IF Amplifier. IF amplifiers have not been procured. FAA has action to determine if refurbished units in the Logistics Center are satisfactory replacements for the five sites listed in JRPG #73 minutes.

OPR: FAA/ANR-110 Open

(2) Item 73-6.h, 72-6.m: Three Level Weather Modification. The ARSR-3 three level weather modification at Mt. Kaala, HI, was commissioned into the Diamond Head ARTCC November 21, 1989.

OPR: FAA/AWP-423.33 Closed

(3) Item 73-6.m: SSR/DMTI Modification.

(a) 84 RADES performed a baseline evaluation at Canton, MI, and special evaluations at San Pedro, CA, and Citronelle, AL. 84 RADES determined that evaluations of this modification will be required upon installation at joint use sites.

OPR: 84 RADES Closed

(b) FAA asked for U.S. Navy coordination in installing this modification at Key West, FL, because of problems at Pico del Estes, PR, with limited log video after the modification was installed. The Navy will staff the issue and provide a reply.

OPR: COMNAVAIR 5515 Open

#### 7. LOGISTICS

a. Item 73-7.a, 72-7.a, 71-7.a, 70-2.bb, 69-2.ee: Supply Priorities. The FAA and USAF priorities in the Logistics Support Agreement (NAT-516) have caused problems to FAA when requesting parts on a P-1 basis. FAA requested this area of

7/8/91

NAT-516 be reviewed by the Logistics Subgroup with the goal of making the response times to a priority request more nearly equal.

OPR: SM-ALC; FAA/AAC-480 Open

b. FPS-117 Supply Priorities. FAA Alaska Region expressed concern that Sacramento ALC is not providing spare items to FPS-117 sites in reasonable timeframes causing extended outages of radar data to FAA. JRPG Cochairmen suggested 11AF and FAA Alaska prepare a letter outlining the problem and forward it to them, through PACAF.

OPR: 11AF/LGK; FAA/AAL-460 Open

c. Item 73-7.b, 72-7.b, 71-7.b: Logistics Technicians at Sites without HFR. Logistics technicians have been removed from all HFR sites.

OPR: HQ TAC/XPPF Closed

d. Transfer of Radars to FAA.

(1) FAA Logistics Center has requested and SM-ALC/MMCF has approved transfer of FPS-91 radars at Lake Charles, LA, and Pt. Arena, CA, after decommissioning. Subject transfer to be at no cost to USAF. This will be worked by logistics subgroup.

OPR: SM-ALC/MMCF; AAC-480 Closed

(2) Transfer of FPS Radar Depot Support. USAF suggested transfer of FPS-60 depot support from Sacramento to FAA Logistics Center because of the few radars of this type in USAF inventory compared to the many in FAA. FAA agreed to this, and the details of transfer will be worked by the logistics subgroup. The U.S. Navy would like to participate in this discussion.

OPR: SM-ALC/MMCF; AAC-480 Open

e. Maintenance of Technical Order File. Recently Oklahoma City ALC (Tinker AFB) has attempted to eliminate submission of AFTO Form 187 and require technical order requisitions be sent by AUTODIN. FAA sector offices do not have AUTODIN capability, making it difficult for FAA to obtain USAF tech orders. The logistics subgroup will examine this issue and provide recommended procedures.

OPR: AAC-480 Open

f. FAA Maintenance of Air Force Records/Forms (AFTO Form 95). With closing of HFR, USAF does not have personnel on site to maintain historical records (AFTO Form 95). Procedures contained in JRPG #65 minutes, paragraph 3u, are revised to state: The responsibility for maintenance and disposition of these forms is transitioned from the designated onsite representative to the Chief of Maintenance at the AD Sector.

OPR: 1AF/LGK Closed

7/8/91

6430.2 CHG 32  
Attachment 74

g. Tyndall Account. A holding account has been established at Tyndall AFB to protect USAF radios that will be utilized in the "leap frog" reallocation for ARSR-4. Each AD Sector will be asked to identify available assets and forward them to Tyndall AFB. The equipment will be redistributed in accordance with the needs of the ARSR-4 program.

OPR: 1AF/LGS

Closed

8. COMMUNICATIONS

a. Item 73-8.am 72-8.a, 71-2.d(10): Full Communications Service (FCS).

(1) Bayshore buffers have been electrically disconnected at all joint use sites. USAF has responsibility for disseminating disposal action for buffers.

OPR: 1AF/SC

Open

(2) SE AD Sector has indicated there is a parity error problem when Bayshore buffers are removed from CD-1 sites and has raised the question if other sites are experiencing the problem.

OPR: TAC/SCP

Open

b. Item 73-8a(3): GRC-171 Interconnectivity Wiring. The installation package for GRC-171 interconnectivity wiring change has not been provided for FAA review. 485 EIG will provide the package and a formal request for FAA assistance for installation to the DOD cochairman.

OPR: 485 EIG

Open

c. Item 73-8.a(4): USAF Frequency Changes. FCS is designed to access a specific frequency on a specific radio in a specific location. FAA technicians should not change frequencies or reposition radios unless directed to do so by AD Sector personnel.

OPR: FAA Regions

Closed

d. FAA Maintenance of FCS Equipment. A question was raised of whether FAA could maintain FCS equipment. This is not possible because of the existing GTE contract for equipment maintenance.

OPR: 1AF/SCX

Closed

e. Item 67-3hh: Data Restoration/Trouble Shooting of TELCO Lines. Because of changes brought about by FCS, the referenced paragraph in JRPG #67 minutes will have to be changed. The revised paragraph is at Attachment 23.

OPR: 1AF/SCX

Closed

7/8/91

f. Radio Communication Link (RCL). U.S. Navy has requested existing Navy data ties and communications requirements be made via FAA's RCL system if the USAF decides to share (with FAA) the RCL system in the CONUS.

OPR: HQ TAC/XPPF Closed

g. Radar Demarcation Point at Joint Use Sites. Because of problems encountered at a joint use site in trying to accommodate an additional data user, a joint FAA/USAF message (DTG 09 1804Z Oct 90) was sent to all FAA regions and USAF AD Sectors defining the demarcation point for radar data. This point is defined as the output terminal of the common digitizer junction box. Cables, devices, and connections beyond that point are the responsibility of the user, owner, leaser. As required by JRPG ground rules, changes in cabling or additions/deletions of any data user require coordination with JRPG cochairmen.

OPR: FAA/ASM-103; HQ TAC/XPPF Closed

h. Item 73-6.e(1)(d): Telephone Requirements at Joint Use Sites. FAA again requested USAF telephone requirements at joint use sites. USAF agreed to provide this data.

OPR: 1AF/SCX Closed

## 9. SECURITY

a. Item 73-9, 72-9: Security Surveys. Security surveys have been conducted at all sites where HFR has ceased operations, and the FAA region anticipates going to less than 24 hour watch coverage. Currently, design and construction are in progress at most sites. USAF presented a briefing (Attachment 14) of the status of all sites in each AD Sector.

OPR: HQ TAC/DE, FAA Regions Closed

b. COMSEC Security. FAA has assumed communication security responsibility at all joint use sites except Oceana, VA. FAA Eastern Region is working to establish Washington ARTCC as COMSEC custodian.

OPR: FAA/AEA-460 Open

c. COMSEC Custodian Reimbursement. FAA asked if USAF would reimburse FAA ARTCC COMSEC custodians for additional duties brought about by transfer of COMSEC custodian responsibilities from USAF to FAA. USAF asked for the extent of this reimbursement. FAA agreed to obtain this information from the regions.

OPR: FAA/ASM-103 Open

d. Unescorted Site Access. The implementation of less than 24 hour watch coverage at joint use sites has raised the question of unescorted access by TELCO, power company, etc., personnel during unmanned periods. FAA provided guidance and policy to the regions January 24, 1991, to permit unescorted access.

OPR: FAA/ASM-103 Closed

10. OPERATIONSa. Item 73-10.a, 72-10.a: Autonomous Operations.

(1) All of the autonomous operation packages have not been relocated since cessation of height finder operations. NORAD still has a requirement for autonomous operations; therefore, packages need to be relocated. In an effort to save relocation cost, IAF-DOY will ask NORAD to defer the remaining packages until FARR implementation.

OPR: IAF/DOY Open

(2) FAA does not support unescorted access to equipment areas by Deployed Weapons Directors; therefore, every effort must be made to conduct training while the site is manned. Coordination is required between USAF sector operation and applicable FAA Sector Field Office.

OPR: IAF/DOY Closed

b. Meteor Burst at Joint Use Sites. There are no known NORAD/TAC requirements for Meteor Burst at joint use sites; however, NORAD will research operation plans to verify any requirement. If a NORAD requirement exists, FAA requires a standard installation package for all sites.

OPR: IAF/DOY Open

c. Single Point of Contact. A single point of contact for coordinating maintenance/operations issues and site configuration settings was again discussed. Reference was made to the Policy and Procedures document in JRPG #73 minutes.

OPR: FAA/ASM-103; HQ TAC/XPPF Closed

d. Search Data Rate Control during Unattended Operations. 84 RADES discussed impact of using stringent control options by FAA personnel during attended and unattended operations. Discussion concentrated on impact on radar performance and how it affects FAA and USAF users. A random sampling showed 80% of sites were found to have one or two parameters incorrectly set without coordination. Standards are established for each site and procedures must be followed to insure correct settings are in use. See Attachment 16.

OPR: FAA Regions Closed

e. Common Language for FAA System Engineer and USAF Data Quality Monitor (DOM). USAF indicated there may be a problem with FAA System Engineers interpreting DQM requests for site setting changes. Discussion indicated procedures are in place but some cross visits by FAA and USAF personnel to the ARTCC and SOCC might be useful.

OPR: FAA Regions; AD Sectors Closed

7/8/91

f. Navy Jamming. FAA asked if Navy jamming is scheduled and if advance notices are being sent out. Navy replied that jamming is scheduled, and procedures are established for representatives of each service to work out details.

OPR: NAVAIRSYSCOM/5515                      Closed

g. Tuning of USAF Radios to Unauthorized Frequencies. FAA has been requested by USAF to tune radios to frequencies that were not authorized for that location. This was due to agreements at high Government levels. FAA position is that until frequencies are authorized by ASM-500, they will not honor requests for radio retuning.

OPR: IAF/DO                                      Open

#### 11. STAFFING

a. Site Manning under Integrated Work Force (IWF). USAF expressed concern that FAA is not staffing joint use sites in accordance with the IWF guidelines established in NAT-614 and has requested FAA provide the number of fully qualified technicians (including supervisor) assigned to each joint use site. Briefing included at Attachment 17.

OPR: HQ FAA/XPPF                              Open

b. Coordination before Reduction of Staffing. USAF emphasized that before staffing reductions occur at joint use sites, proper coordination between the appropriate FAA region, the AD Sector, and TAC/IAF must occur. These procedures are documented in NAT-614.

OPR: FAA Regions                              Closed

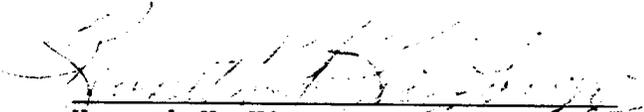
c. Advance Notification for 24 Hour Watch Coverage at Reduced Watch Sites during Live Flying Exercises. FAA/PASS Agreement states FAA will attempt to provide seven (7) days notice of changes in shift assignment. This is within the 15 day USAF notification requirement for live flying exercises spelled out in NAT-614.

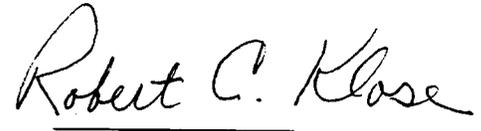
OPR: FAA/ASM-103                              Closed

7/8/91

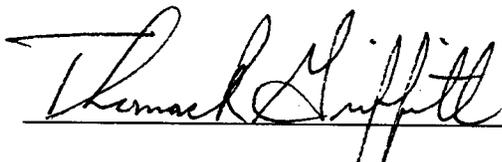
6430.2 CHG 32  
Attachment 74

12. These minutes are directive upon the USAF after authentication and directive upon the FAA after signature of the FAA change order.

  
Kenneth H. Kingsmore, Lt Col, USAF  
DOD Cochairman

  
Robert C. Klose  
FAA Cochairman

AUTHENTICATION

  
THOMAS R. GRIFFITH, Brig Gen, USAF,  
Deputy Chief of Staff, Plans

  
Director, Systems Maintenance  
Service, ASM-1  
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ATTACHMENTS

1. JRPG #74 Attendees
2. DOD/FAA Current Address List
3. FAA Regional JRPG Coordinators
4. Logistics Subgroup Meeting #52
5. Radar Networking Subgroup
6. JRPG Coordination Chain and Problem Solving Flow Diagrams
7. Alaskan Air Command Briefing
8. PREP Briefing
9. PSA Status
10. 84 RADES Briefing - RCIU/RMM
11. CD-2 Briefing
12. USAF G-A-G Radio Briefing
13. FIRRS Status Briefing
14. JSS Security Requirements/Status
15. FARR Briefing
16. Radar Site Parameter Settings
17. NAT-614 Staffing Requirements
18. Safety Inspections
19. Beacon RADHAZ Report
20. Joint Use Site Configurations
21. Survey of Data Ties/Services Provided at Joint Use Sites
22. Gibbsboro, NJ, Planning Document
23. Data Restoration/Troubleshooting of Telco Lines



7/8/91

6430.2 CHG 32  
Attachment 74

JRPG #74 Attendees

Attachment 1

7/8/91

JOINT RADAR PLANNING MEETING #74

12 February 1991

Attendee List

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Altman, Walt	NAVELEXCEN/San Diego	CM (619)524-2126 DSN 524-2126
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7/8/91

6430.2 CHG 32  
Attachment 74

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7/8/91

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7/8/91

6430.2 CHG 32  
Attachment 74

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Walton, Douglas	FAA/ZMA SE	FTS 820-1393 CM (305)592-6039
Weber, Chuck Lt Col	HQ NORAD/J30G	DSN 692-3360
Weltz, Dave SMSgt	NW AD Sector/LGK	DSN 976-4756 CM (206)984-4756
Westervelt, William E.	SW AD Sector/LGKQA	DSN 947-6758 CM (714)655-6758
Weyrauch, Ted	FAA/ANR-110	FTS 267-8426 CM (202)267-8426
Widdowfield, Don	FAA/AEA 511.1	FTS 667-1221 CM (718)917-1221
Wise, Michael T.	FAA/AAL-461	CM (907)271-5786
Wuest, Matthew	NAVELEXCEN/San Diego	CM (619)524-2140
Wise, Michael T.	FAA/AAL-461	CM (907)271-5786
Young, Allen Capt	1 AF/DOYE	DSN 574-6192 CM (804)764-6193

7/8/91

6430.2 CHG 32  
Attachment 74

DOD/FAA Current Address List

Attachment 2

DOD/FAA CURRENT ADDRESS LIST

FAA

MAIL

MESSAGE

FAA/ASM-103  
800 Independence Ave., SW  
Washington, DC 20591

FAA WASH DC//ASM-103//

FAA Technical Center  
ASM-162  
Atlantic City Airport  
Atlantic City, NJ 08405

FAA TECHN CENTER ATLANTIC CITY NY//  
ASM-162//

FAA Aeronautical Center  
AAC-481  
P.O. Box 25082  
Oklahoma City, OK 73125

FAA/AERONAUTICAL CENTER OKLAHOMA CITY  
OK//AAC-481//

FAA/AGL-422.3  
FAA Great Lakes Region  
2300 E. Devon Avenue  
Des Plaines, IL 60018

FAA GREAT LAKES RGN DES PLAINES IL//  
AGL-422.3//

FAA/ASO-465  
FAA Southern Region  
P.O. Box 20636  
Atlanta, GA 30320

FAA SOUTHERN RGN ATLANTA GA//ASO-465//

FAA/AEA-462  
FAA Eastern Region  
Federal Building  
JFK International Airport  
Jamaica, NY 11430

FAA EASTERN RGN NEW YORK CITY NY//  
AEA-462//

FAA/ANE-462  
FAA New England Region  
12 New England Exec Park  
Burlington, MA 01803

FAA NEW ENGLAND RGN BURLINGTON MA//  
ANE-462//

FAA/AAL-461  
FAA Alaskan Region  
222 W. 7th Ave., #14  
Anchorage, AK 99513-7587

FAA ALASKA RGN ANCHORAGE AK//AAL-461//

FAA Aeronautical Center  
ASM-600  
P.O. Box 25082  
Oklahoma City, OK 73125

FAA AERONAUTICAL CTR OKLAHOMA CITY OK//  
ASM-600//

DOD/FAA CURRENT ADDRESS LIST (CONTINUED)FAAMAIL

FAA/ACO-320  
800 Independence Ave., SW  
Washington, DC 20591

FAA/ANM-464D  
FAA Northwest Mountain Region  
1601 Lind Ave., SW  
Renton, WA 98065-4056

FAA/AWP-423.33  
FAA Western Pacific Region  
P.O. Box 92007  
World Way Postal Center  
Los Angeles, CA 90009

FAA/ASW-425  
FAA Southwest Region  
Ft Worth, TX 76193-0425

MESSAGE

FAA WASH DC//ACO-320

FAA NORTHWEST MOUNTAIN RGN RENTON WA//  
ANM-464D//

FAA WESTERN PACIFIC RGN LOS ANGELES  
AWP-423.33//

FAA SOUTHWEST RGN FT WORTH TX//  
ASW-425//

DOD/FAA CURRENT ADDRESS LIST  
USAF/NAVY

MAIL

HQ USAF/XOORC/PRPFC  
Washington, DC 20300-5054

HQ TAC/XPPF/DER/DRC/SCX/SCM/DOY  
Langley AFB VA 23665-5001

SM-ALC/LHF  
McClellan AFB CA 95652-5000

HQ AFCC/AIIC/ATT  
Scott AFB IL 62225-6001

HQ ESD/SCU  
Hanscom AFB MA 01731-5000

HQ PACAF/DOQZ/DOCD/SCLM  
Hickam AFB HI 96853-5001

HQ NORAD/J30/J5R  
Peterson AFB CO 80914-5002

SIO/SYE, Stop 7  
Peterson AFB CO 80914-5001

1 AF/LGK/SCX/DOY/LGS  
Langley AFB VA 23665-5009

11 AF/DOY/LGMK  
Elmendorf AFB AK 99506-5000

SE AD Sector/SCX/DOC/DOY/LGK/DE  
Tyndall AFB FL 32403-5000

NE AD Sector/SCX/DOC/DOY/LGK/DE  
Griffiss AFB NY 13441-5000

NW AD Sector/SCX/DOC/DOY/LGK/DE  
McChord AFB WA 98438-6003

MESSAGE

HQ USAF WASH DC//XOORC/PRPFC//

HQ TAC LANGLEY AFB VA//XPPF/DER/DRC/  
SCX/SCM/DOY//

DIR SPACE AND C-3 MGMT MCCLELLAN AFB  
CA//LHF//

HQ AFCC SCOTT AFB IL//AIIC/ATT//

ESD HANSCOM AFB MA//SCU//

HQ PACAF HICKAM AFB HI//DOQZ/DOCD/  
SCLM//

HQ NORAD PETERSON AFB CO//J30/J5R//

SIO PETERSON AFB CO//SYE//

1AF LANGLEY AFB VA//LGK/SCX/DOY/  
LGS//

11AF ELMENDORF AFB AK//DOY/LGMK//

SE AD SECTOR TYNDALL AFB FL//  
SCX/DOC/DOY/LGK/DE/

NE AD SECTOR GRIFFISS AFB NY//SCX/  
DOC/DOY/LGK/DE//

NW AD SECTOR MCCHORD AFB WA//SCX/  
DOC/DOY/LGK/DE//

DOD/FAA CURRENT ADDRESS LIST - CONTINUED  
USAF/NAVYMAIL

SW AD Sector/SCX/DOC/DOY/LGK/DE  
March AFB CA 92518-5000

11 TCW/DOX/LGK  
Elmendorf AFB AK 99506-5000

1845 EEG/EIL/XPT  
Tinker AFB OK 73145-6343

84 RADES/CC/DO/DOP/DOE  
Hill AFB UT 84056-5000

485 EIG/EILE/XPT  
Griffiss AFB NY 13441

475 WEG/DTR  
Tyndall AFB FL 32403-5000

6010 AERODG/DOG  
Wheeler AFB HI 96854-5000

154 COMPG/DO/MAI  
Hickam AFB HI 96816-5000

Commander, Naval Air Systems  
Command  
AIR-5515  
Washington, DC 20361-5510

Commander, Naval Electronics  
Systems Engineering Center  
Code 235, P.O. Box 85137  
San Diego, CA 92186-5137

Commander, Naval Electronics  
Systems Engineering Center  
Code 313  
4600 Marriott Drive  
North Charleston, SC 29418

MESSAGE

SW AD SECTOR MARCH AFB CA//SCX/DOC/  
DOY/LGK/DE//

11TCW ELMENDORF AFB AK//DOX/LGK//

1845EEG TINKER AFB OK//EIL/XPT//

84RADES HILL AFB UT//CC/DO/DOP/DOE//

485EIG GRIFFISS AFB NY//EILE/XPT//

475WEG TYNDALL AFB FL//DTR//

6010AERODG WHEELER AFB HI//DOG//

154COMPG HICKAM AFB HI//DO/MAI//

COMNAVAIRSYSCOM WASH DC//AIR 5515//

COMNAVELEXCEN SAN DIEGO CA//CODE  
235//

COMNAVELEXCEN CHARLESTON SC//CODE  
313//



7/8/91

6430.2 CHG 32  
Attachment 74

FAA Regional JRPG Coordinators

Attachment 3

7/8/91

**FAA JRPG COORDINATORS**

<u>Name</u>	<u>Region</u>	<u>Telephone</u>
Randy Means	AAC-481	FTS 747-5572 (405) 680-5572
Bill Carr	ANE-462	FTS 836-7180 (617) 273-7180
Jim D'Onofrio	AEA-462	FTS 667-0825 (718) 917-0825
Fred Morris	ASO-424	FTS 246-7109 (404) 763-7109
Russ Lorenz	AGL 422.3	FTS 384-7764 (312) 694-7764
Gus Riccono	ASW-425	FTS 734-5325 (817) 624-5325
Jack Phippen	ANM-464D	FTS 392-2325 (206) 227 2325
Emmett Larsen	AWP-423.33	FTS 984-1106 (213) 297 1106
Mike Wise	AAL-461	(907) 271-5786

7/8/91

6430.2 CHG 32  
Attachment 74

Logistics Subgroup Meeting #52

Attachment 4

MINUTES OF USAF/FAA  
JOINT RADAR PLANNING GROUP (JRPG)  
LOGISTICS SUB-GROUP  
MEETING #52

MIKE MONRONEY AERONAUTICAL CENTER  
OKLAHOMA CITY, OKLAHOMA

MARCH 6, 1991

1. The meeting was convened to document transfer of equipment between U.S. Air Force (USAF) and Federal Aviation Administration (FAA) in support of Joint Surveillance System (JSS) facilities. Property transfers are in accordance with Joint Radar Planning Group (JRPg) procedures and directives. Authorization for subject transfers are in the Memorandum of Agreement (MOA) between the Department of Defense (USAF) and the Department of Transportation (FAA) for the JSS (NAT 614).

2. List of Attendees:

NAME	TELEPHONE
Randall C. Means DOT/FAA Log Sub-group Co-Chairman	405-680-5572
Jerry C. Lassiter 1AF/LGK DOD/USAF Alt. Log Sub-group Co-Chairman	804-764-6095
Clifton D. Tull Donna Rice GSA Regional Representatives Tinker AFB, OK	405-231-4628
M/SGT Randy Duvall HQ 1 AF/LGSW Langley AFB, VA	804-764-6089

3. At the request of the Chairman, GSA representative was present to sign the SF-122 to document transfers.

4. USAF/FAA documents evidencing transfer are attached and listed in paragraph 5.

5. Summary of Transfer Actions:

LOCATION	PROPERTY	SF-122	\$ VALUE
Crescent City, CA	Support Equip.	AWP-0400358	713.50
	Administrative Support Equip.	AWP-0400359	4,117.47
	and Administrative	AWP-0400360	<u>3,860.03</u>
			10,894.30
Cross City, FL	Administrative Furniture and Support Equip.	ASO-1700115	14,686.80
Ellington, TX	Support Equip.	ASW-1200033	735.00
	Support Equip.	ASW-1200034	<u>1,207.00</u>
			1,942.00

7/8/91

LOCATION	PROPERTY	SF-122	\$ VALUE
Jedbury, SC	Administrative Support Equip.	ASO-1700042	4,728.05
Mill Valley, CA	Administrative Support Equip.	AWP-1400071	5,813.14
Mt Laguna CA	Administrative Support Equip.	AWP-1400080	4,297.16
Oceana, VA	Support Equip.	AEA-54A-90-003	2,743.95
Paso Robles, CA	Administrative Furniture and Support Equip.	AWP-1400098	15,149.03
Riverside, NY	Tools, test and Support Equip.	AEA-54A-90-001	30,186.06
Salem, OR	Administrative Furniture and Support Equip.	ANM-52A4-015	66,665.09
San Pedro, CA	Administrative Furniture and Support Equipment	AWP-1400085	48,493.97
TOTAL:			\$205,599.55

6. Total dollar value of property transferred as a result of this meeting amounted to \$205,599.55.

7. New business items discussed:

a. FAA requisition of USAF T.O.'S. AAC-481 is investigating a method to allow FAA to requisition USAF T.O.'s while satisfying the automated procedures required by the USAF distribution system.

b. NAT-516 priority revisions. At the request of the JRPG Co-Chairman, the Logistics Sub-group will revisit the priority issues of NAT-516. If changes to the priorities can be made, NAT-516 will be revised to reflect the changes.

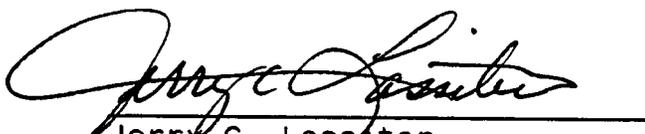
c. Transition of prime depot support for FPS-20 series radars. Discussions have begun between SM-ALC and FAA Logistics Center to transition the depot support for FPS-20 radars from SM-ALC to FAA Logistics Center. Continued use of these radars by FAA, while the number in USAF inventory is rapidly declining, makes the possibility of depot transition attractive to FAA. The point of contact at FAA Logistics Center is AAC-481.

7/8/91

6430.2 CHG 32  
Attachment 74

d. Transfer of AN/FPS-91 radars at Point Arena, CA and Lake Charles, LA. Upon decommission by USAF, FAA has requested and SM-ALC has approved transfer of these two radars to FAA. Transfer will occur via logistic sub-group. Removal and shipping cost to be borne by FAA.

8. The next logistics sub-group meeting will be called by the co-chairman when required.



Jerry C. Lassiter  
1AF/LGK  
USAF Alt. Co-Chairman

March 6, 1991



Randall C. Means  
AAC-481  
DOT CO-Chairman (FAA)

March 6, 1991



7/8/91

6430.2 CHG 32  
Attachment 74

Radar Networking Subgroup

Attachment 5

7/8/91

JRPG

28 Nov 90

RADAR NETWORKING SUBGROUP MEETING #7

1. This meeting was held 25 Oct 90 at HQ FAA, Washington, D.C. Attendees are listed at attachment one. The FARR program delivery schedule was drafted several years ago using mutually accepted criteria. Although the schedule as a whole is sound, some priorities have changed, necessitating an adjustment to the schedule.
2. The purpose was to finalize the ARSR-4 delivery schedule for submission to the JRPG. The revised FARR delivery list, at attachment two, is the Networking Group's recommended sequence for ARSR-4 deliveries. Some of the factors considered in revising the list were: enviromental considerations; counternarcotics mission; Height Finder removal; FAA Region engineering support; NCP relocation and funding constraints.
3. The schedule reflects the future ARSR-4 locations based on FAA NCP 12209 with the exception of Malmstrom. USAF is awaiting FAA decision to move Malmstrom to Big Baldy or leave it in place.



Mark Nobile, Maj, USAF  
Subgroup USAF Co-Chairman



Ardeth Williams, ATR-120  
Subgroup FAA Co-Chairman

JRPG/FARR ARSR-4 Delivery Schedule

<u>Name</u>	<u>Organization</u>	<u>Phone No</u>
J. E. Parker	1845 EEG/EIL	405-734-9311
C. Gingrich	1AF/SCX	804-764-6226
Major Mark Nobile	1AF/DOYE	804-764-6193
CMS Tom Teubert	1AF/DOYE	804-764-6191
MSgt. Larry Thornton	HQ TAC/DRCS	804-764-4422
Bob Kessler	Martin Marietta (ARSR-4 JPO)	202-646-2363
Ardyth Williams	ATR-120	703-569-8186
Bob Klose	ASM-103	202-267-8414
Ken Kingsmore	HQ TAC/XPPF	804-764-4426
Phillip A. Shelsted	ANR-140	202-646-5775

7/8/91

REVISED FARR (ARSR-4) DELIVERY SCHEDULE

<u>Sequence</u>	<u>Location</u>	<u>Delivery Date</u>
1	Rainbow Ridge, CA	11/22/91
2	FAA Aeronautical Center OK	1/22/92
3	Makah, WA	6/22/92
4	Key West, FL	7/22/92
5	Lake Charles, LA	8/21/92
6	Guantanamo, Cuba	9/22/92
7	Paso Robles, CA	10/22/92
8	Oilton, TX	10/22/92
9	Jedburg, SC	11/23/92
10	Guam	12/22/92
11	Richmond Hts, FL	12/22/92
12	Salem, OR	1/22/93
13	Gibbsboro, NJ	2/22/93
14	Mt. Kaala, HI	2/22/93
15	Rocksprings, TX	3/22/93
16	Cross City, FL	4/22/93
17	Slidell, LA	4/22/93
18	Fort Fisher, NC	5/21/93
19	Bucks Harbor, ME	6/22/93
20	Morales, TX	6/22/93
21	Phoenix, AZ	7/22/93
22	Tyndall, FL	8/22/93
23	Nashwauk, MN	8/23/93
24	Lakeside, MT	9/22/93
25	Utica, NY	10/22/93
26	Watford City, ND	10/22/93
27	Whitehouse, FL	11/22/93
28	Riverhead, NY	12/22/93
29	King Mt., TX	12/22/93
30	Empire, MI	1/21/94
31	Finley, ND	2/22/94
32	Eagle Peak, TX	2/22/94
33	Mica Peak, WA	3/22/94
34	Mt. Laguna, CA	4/22/94
35	Malmstrom/Big Baldy	4/22/94
36	Patrick, FL	5/23/94
37	Deming, NM	6/22/94
38	Ft. Lonesome, FL	6/22/94
39	North Truro, MA	7/22/94
40	Mill Valley, CA	8/22/94
41	Oceana, VA	4/22/93
42	San Clemente, CA	5/21/93
43	Mt. Kokee, HI	TBD

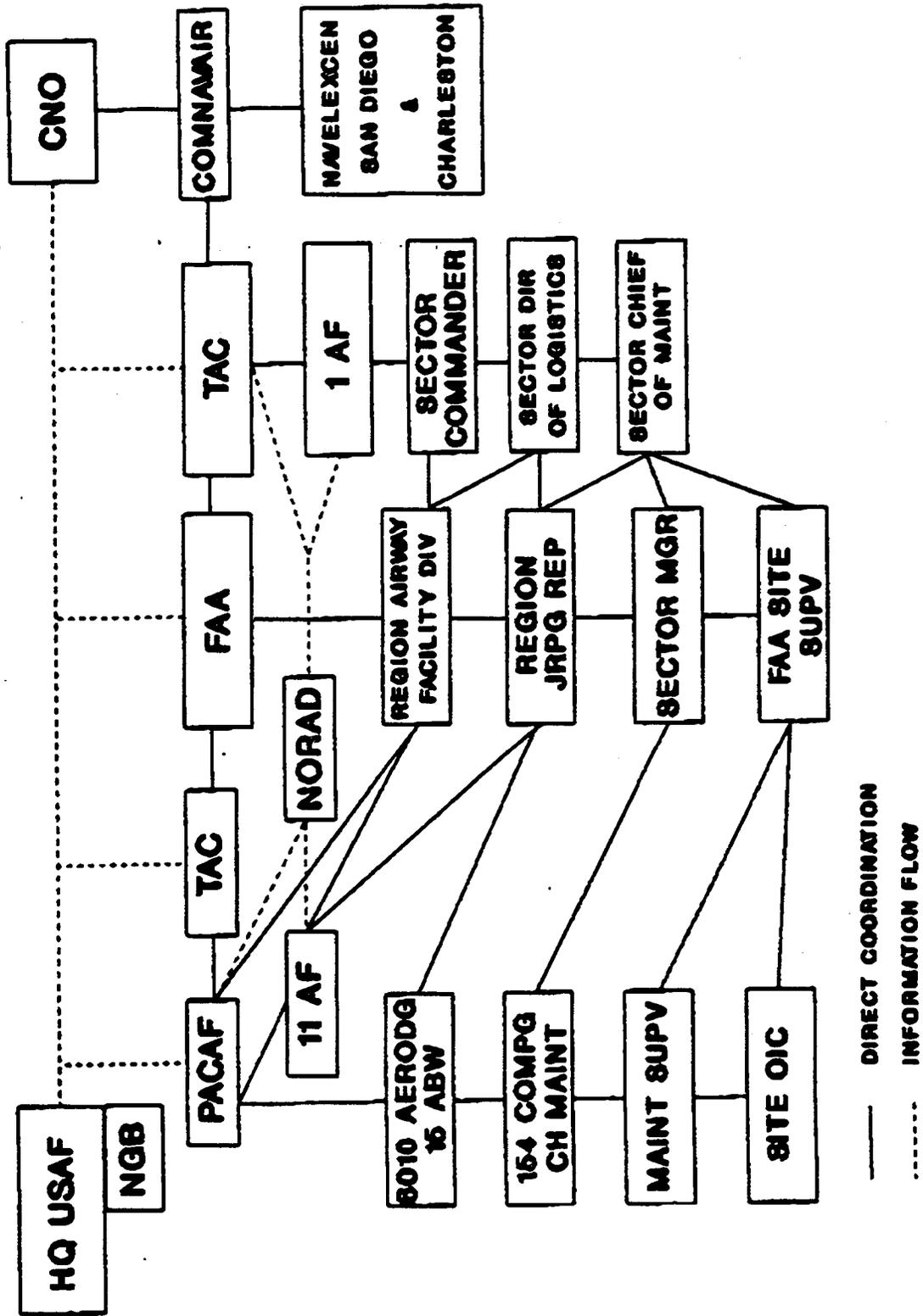
7/8/91

6430.2 CHG 32  
Attachment 74

JRPG Coordination Chain and Problem Solving Flow Diagrams

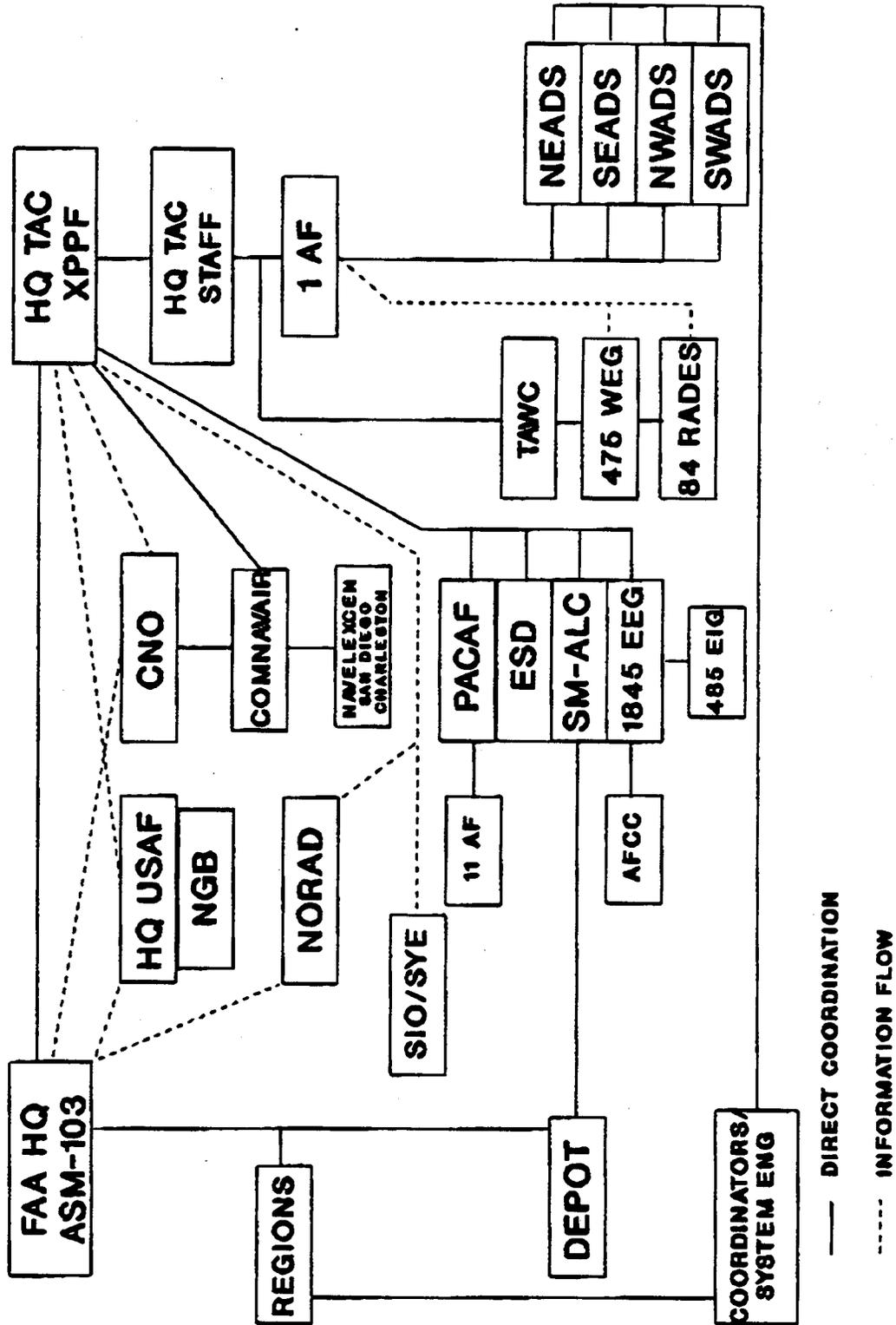
Attachment 6

# FAA/USAF/NAVY JRPG PROBLEM SOLVING FLOW



— DIRECT COORDINATION  
- - - - - INFORMATION FLOW

# FAA/USAF/NAVY JRPG COORDINATION CHAIN





7/8/91

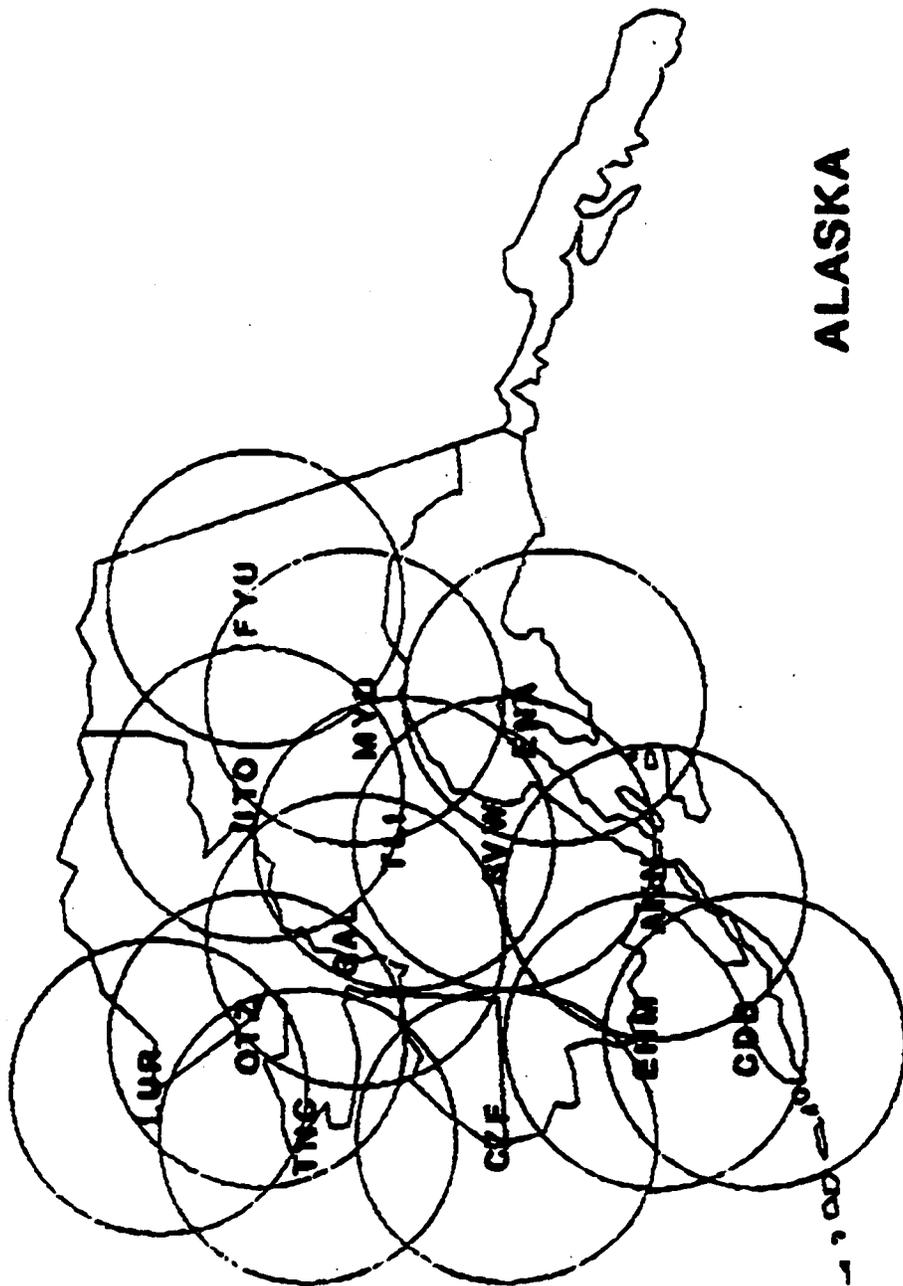
6430.2 CHG 32  
Attachment 74

Alaskan Air Command Briefing

Attachment 7

7/8/91

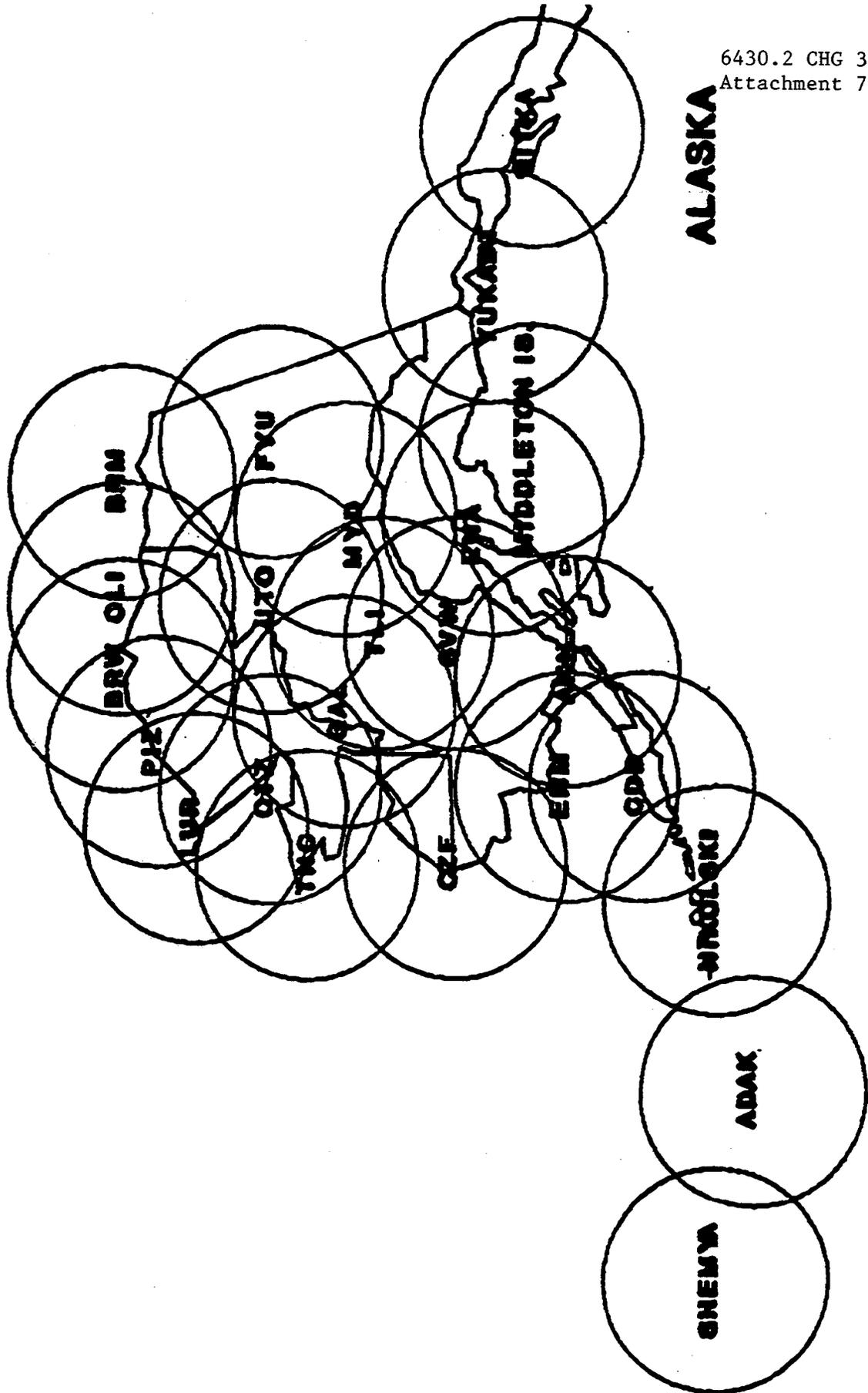
# JOINT USE RADARS (PRESENT)



7/8/91

6430.2 CHG 32  
Attachment 74

# JOINT USAGE RADARS (FUTURE)



ALASKA

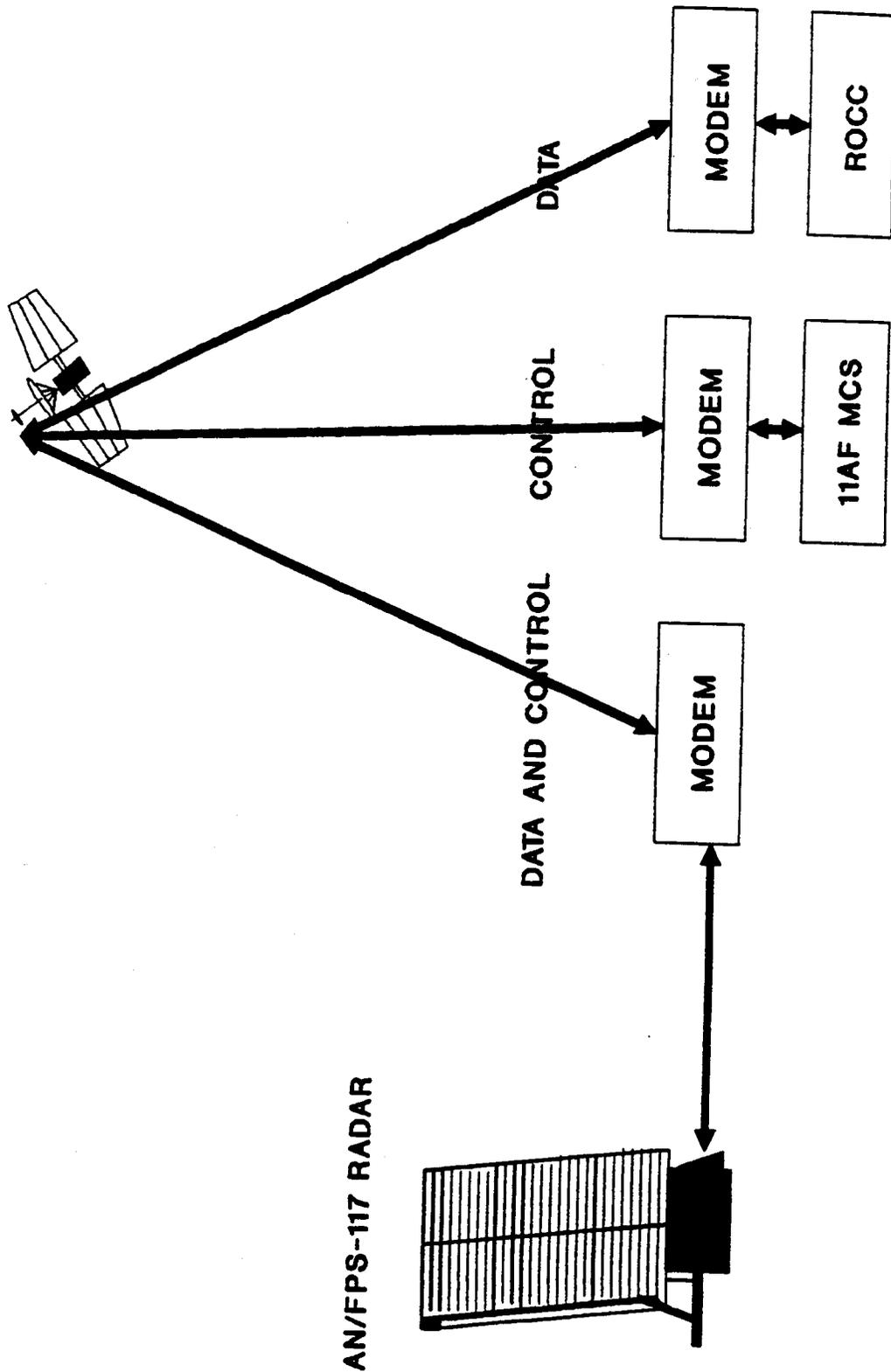
# 11th AIR FORCE

## MODIFICATION PROGRAM FOR AN/FPS-117 RADARS

OPR:11AF/LGMK

# 11TH AIR FORCE (PACAF) AN/FPS-117 ROMS INTERFACE

6430.2 CHG 32  
Attachment 74



# **ROMS**

## **REMOTE ON-LINE MAINTENANCE SYSTEM**

- **THIS MOD WILL FURTHER THE AN/FPS-117 MINIMALLY MANNED CONCEPT BY REMOTING CRITICAL CONTROLS AND MAINTENANCE DATA TO A CENTRAL LOCATION.**
- **SKILLED TECHS CAN REMOTELY ASSESS/ ANALYZE THE RADAR PERFORMANCE OF EACH SYSTEM AND INITIATE CORRECTIVE MAINTENANCE.**

# **ROMS FEATURES**

- **CENTRAL MAINTENANCE CONTROL SYSTEM**
- **OPERATIONAL CONTROL - ALL RADARS**
- **REAL TIME STATUS - ALL RADARS**
- **TAKE/GIVE/OVERRIDE SITE CONTROL**
- **REMOTE RESTART - ALL RADARS**
- **COMMUNICATE - MCS- SITE PRINTER**
- **MONITOR RADAR PERFORMANCE**

# ROMS INSTALLATION PLAN

LOCATION	1991				1992				1993				1994			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
KING SAL.																
ELM MCS			1													
AK SITES					3	2				2	4			3	2	
CDN SITES															6	5
CDN MCS																1
LOGSET							1									
LOGSET MCS							1									
BERLIN SITE																1
BERLIN MCS																1

**TOTAL - 34 KITS (30 RADARS AND 4 MCSSs)**

# **RAMMS**

## **REMOTE ANALYSIS MAINTENANCE MONITORING SYSTEM**

- **THIS MOD FOLLOWS ROMS. IT PROVIDES ADDITIONAL IMPROVEMENTS TO SYSTEM RELIABILITY, MAINTAINABILITY, AND SUPPORTABILITY.**
- **TECHNICIANS USING THE CENTRALLY LOCATED MAINTENANCE CONTROL SYSTEM (MCS) CAN PERFORM SPECIAL ON-LINE AND OFF-LINE TESTS, RECORD THE TEST RESULTS AND DETERMINE CAUSE OF MOST SYSTEM FAILURES.**
- **SOFTWARE DEVELOPMENT AND ENGINEERING FOR ANY RADAR SITE CAN BE DONE FROM THE MCS AT SM-ALC. ALSO, NEW SOFTWARE BUILDS CAN BE DOWNLOADED FROM SM-ALC TO ANY OF THE THIRTY AN/ FPS- 117 RADARS.**

# RAMMS FEATURES

- REMOTE ON AND OFF-LINE SYSTEM TESTING
- FAST DOWNLOADING OF MISSION SOFTWARE
- AUTOMATIC WEATHER INPUT
- POWER MONITOR AND AUTO RESTART
- AUTOMATIC ANALYSIS TOOLS FOR SYSTEM MONITOR
- TESTING OF INDIVIDUAL LRU/FUNCTIONS
- RETRIEVE DATA FOR FAILURE ANALYSIS
- REMOTE SOFTWARE CHANGES FROM SM-ALC

# RAMMS INSTALLATION PLAN

LOCATION	1993			1994			1995			1996		
KING SAL.	1	2	3	4	1	2	3	4	1	2	3	4
ELM MCS			1									
AK SITES			1	4	3	3			2	1	2	
CDN SITES												
CDN MCS									1	1	2	3
LOGSET												
LOGSET MCS									1			
BERLIN SITE												1
BERLIN MCS												1

TOTAL - 34 KITS (30 RADARS AND 4 MCSSs)

# **RMS**

## **RELIABILITY-MAINTAINABILITY-SUPPORTABILITY**

**THIS MODIFICATION WILL INCORPORATE TECHNOLOGICAL HARDWARE IMPROVEMENTS DEVELOPED FOR RELATED AN/FPS-117 SYSTEMS SUCH AS PEACE SHIELD, ICELAND AND GERMANY.**

**THIS MODIFICATION WILL ASSURE CONTINUED SUPPORTABILITY OF THE AN/FPS-117 RADARS. THE HARDWARE IS FULLY DEVELOPED, MOSTLY FORM-FIT-FUNCTION REPLACEMENTS.**

**MINIMUM SOFTWARE CHANGES WILL BE REQUIRED.**

**INSTALLATION OF THE REPLACEMENT LRU WILL BE BY ATTRITION.**

**THIS IMPROVEMENT AND CONCEPT IMPLEMENTATION SUPPORT THE OBJECTIVE OF THE SM-ALC SPONSORED AN/FPS-117 MODIFICATION PROGRAM.**

# **RMS FEATURES**

- **ANTENNA SIDE LOBE IMPROVEMENTS**
- **ROW RECEIVERS WITH PASSIVE PROTECTION**
- **ANALOG LRUS WILL REQUIRE LESS POWER**
- **50% POWER REDUCTION FOR DATA PROCESSOR GROUP (DPG)**
- **DDP DATA BUS - ECL TO TTL**
- **IMPROVED MTI PERFORMANCE**
- **LOW NOISE FREQUENCY MULTIPLIERS**
- **50% REDUCTION IN LRUS IN DPG**

# RMS INSTALLATION PLAN

LOCATION	1994				1995				1996				1997			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
KING SAL.	1															
ELM MCS	1															
AK SITES					3	1	2	3	3	1	2	1				
CDN SITES																
CDN MCS													1	3	1	1
LOGSET																
LOGSET MCS																
BERLIN SITE																
BERLIN MCS																

TOTAL - 34 KITS (30 RADARS AND 4 MCSSs)

# AN/FPS-117 MODIFICATION SCHEDULE

MILESTONE	ROMS	RAMMS	RMS
MOD PROPOSAL	APR 86	APR 87	JUL 88
SM-ALC CCB	JUN 88	MAR 91	MAR 92
CONTRACT AWARD	SEP 89	DEC 91	DEC 92
1ST ARTICLE	JUN 91	MAR 92	DEC 93
FY91 1ST ARTICLE	2 KITS	-----	-----
FY92	7 KITS	4 KITS	-----
FY93	6 KITS	6 KITS	-----
FY94	19 KITS	5 KITS	6 KITS
FY95	-----	10 KITS	9 KITS
FY96	-----	9 KITS	10 KITS
FY97	-----	-----	9 KITS

TOTAL - 34 KITS (30 RADARS AND 4 MCSSs)  
ALASKA, CANADA, LOGSET AND BERLIN



7/8/91

6430.2 CHG 32  
Attachment 74

PREP Briefing

Attachment 8

**PREP BRIEFING**

**BY CAPT JEFFREY S. RICHARDSON**

## **OVERVIEW**

- PREP BACKGROUND**
- CONNECTIVITY**
- MOD TO REDUCE LINE LOADING**
- PREP OPERATION**
- FUTURE GOALS**

**PREP BACKGROUND**

- RADES RECEIVED PACE PROGRAM OCT 87**
- OL PERSONNEL: MSGT AND TSGT  
(303XX AND 276XX)**
- RANDOM TRAFFIC USED TO ACCESS  
INDIVIDUAL RADAR PERFORMANCE**
- SRA AND AUTOMATED DATA COLLECTION**

**CONNECTIVITY**

**- ACCOMPLISHED 7 JUL -29 AUG 90**

**- COMPAQ 386 PC AND EQUIPMENT  
CABINET**

**- JOB CONTROL AND SITES CONTACTED  
DURING DATA COLLECTION**

**MOD TO REDUCE LINE LOADING**

- IDENTIFIED DURING INITIAL  
CONNECTIVITY TESTING**
- SE ADS REQUESTED A FIX**
- AVANTI CONVERTERS MODIFIED  
COMPLETION DATE 18 JAN 91**
- RESULT: LINE LOADING UNDETECTABLE**

7/8/91

6430.2 CHG 32  
Attachment 74

PSA Status

Attachment 9

EID JSS PROJECTS  
REQUIRED RADIO WORK  
AS OF 6 FEB 91  
WITH TEAM COMPLETION DATE = E

DEFINITIONS

E.....ESTIMATED  
SSD.....SITE SURVEY DATE  
PSAS.....PROGRAM SUPPORT AGREEMENT  
PSAR.....PROGRAM SUPPORT AGREEMENT REPLY  
ECD.....ENGINEERING COMPLETION DATE  
TSD.....TEAM START DATE  
TCD.....TEAM COMPLETION DATE  
ASC.....ALLIED SUPPORT CONSTRUCTION  
P.....PARTIAL CONCURRENCE/COMPLETION

DATES: 880902E.....YEAR/MONTH/DATE/ESTIMATED

PROJECT NO	TITLE	SSC	PSAS	PSAR	ECD	TSD	TCD
CRESCENT CITY							
9501R9D0	RMV JSS RADIOS	910510E	910530E	910730E	920215E	930201E	930430E
ELLINGTON							
9510R9D0	RMV RADIOS	-----	910920E	911230E	920310E	931105E	931130E
9698T1D0	RELOC ANTS	-----	-----	-----	-----	-----	910217E
FINLEY							
9687T0D0	RELOC RADIOS	-----	-----	910630E	921120E	941101E	941130E
1930T7B0	RELOC RADIOS	-----	-----	-----	-----	910801E	910901E
NOTE:	PROJECT 1930T7B0 RELOCATES 1 ANT AND PULLS 1 ANT POLE. 485 EIG TO PUBLISH PSA AMENDMENT.						
FT LONESOME							
9515T9D0 **	RELOC AF RADIOS	910301E	910630E	920228E	931215E	940401E	940530E
	**RADIO RELOCATION BEING DONE UNDER FARR PGM.						
GRAND ISLE LA							
9687A1D0	INSTL AF RADIOS	910430E	910530E	910730E	910920E	???????	???????
JEDBURG							
9521T9D0 **	RELOC RADIOS	-----	-----	-----	910615E	921001E	921230E
	**HFR TWR NOW BEING REMOVED AFTER FARR BY FARR PGM.						
KENO							
0026T0B0	REL RADIO/ANT	-----	-----	-----	910301E	910901E	910915E
KEY WEST							
9532T9D0 ‡	REL JSS RADIOS	-----	-----	910228E	910515E	910801E	910830E
	‡ RADIOS CURRENTLY IN HFR TWR; NAVY WILL REMOVE HFR TWR.						
MICA PEAK							
1912T7B0	RELOC RADIOS	-----	-----	-----	-----	910401E	910430E
MT LAGUNA							
9568R9D0	RMV HFR TOWER	910419E	910630E	911230E	930915E	940701E	940830E
COMMENTS:	HFR TOWER WILL HOUSE AF RADIOS UNTIL AFTER FARR.						
NASHWAUK							
1921T7B0	RELOC RADIOS	-----	-----	-----	-----	910801E	910830E
	485 EIG TO PUBLISH PSA AMENDMENT.						

N. TRURO

0301T8B0 RELOC RADIOS ----- 910401E 910430E

ODESSA

9574R9D0 RMV RADIOS 910628E 910830E 920330E 930405E 940601E 940630E

PASO ROBLES

9647T0D0 § REL JSS RADIOS ----- 910401E 910430E  
§ PROJECT DELAYED BECAUSE OF TELCO.

PLATTSBURGH

1950A8B0 INSTL VHF RADIOS ----- 910317E 910330E

PT ARENA

9590R9D0 RMV JSS RADIOS 910830E 911030E 920130E 920215E 930201E 930330E

REMSEN (UTICA)

1905T7B0 RELOC RADIOS ----- 910701E 910730E  
1949A8B0 INSTL VHF RADIOS ----- 910701E 910730E

RIVERHEAD

COMMENT: AF RADIOS WILL BE RELOCATED AFTER ARSR-4 INSTALLATION UNDER FARR PGM.  
485 EIG NEEDS TO AMEND PSA AND GET INDORSEMENT

SAN CLEMENTE IS

9660A0D0 INSTALL RADIOS ----- 910220E 910228E 910501E 910630E  
COMMENT: NEED NAVY RML UPGRADE BEFORE RADIOS CAN BE INSTALLED AND OPERATED.

SAN PEDRO

9649R0D0 RMV RADIOS ----- 910228E 910701E 910730E

COMMENT: CAN NOT REMOVE THE RADIOS UNTIL THE SAN CLEMENTE RADIOS ARE INSTALLED  
AND OPERATIONAL.

SILVER CITY

9606R9D0 \* RMV AF RADIOS 910901E 911030E 911230E 920930E 950105E 950130E

WATFORD CITY

1935T7B0 RELOC RADIOS ----- 910415E 910515E  
485 EIG TO PUBLISH PSA AMENDMENT.

EL PASO

9507R9D0 RMV RADIOS ----- 910215E 910530E 921215E 940901E 940930E  
9508R9D0 RMV GPA-124 ----- 910215E 910530E 921215E 910901E 940930E

## EID COMPOSITE LISTING OF RADIO REMOVAL/RECONFIGURATIONS (E=ESTIMATED START/COMPLETION DATES)

BASE/SITE	PROJECT NO	TITLE	SSC	PSAS	PSAR	ECD	TSD	TCO
CRESCENT CITY	9501R9D0	RMV JSS RADIOS	910510E	910530E	910730E	920215E	930201E	930430E
ELLINGTON	9510R9D0	RMV RADIOS	-----	910920E	911230E	920310E	931105E	931130E
	9698T1D0	RELOC ANTS	-----	-----	-----	-----	-----	910217E
FINLEY	9687T0D0	RELOC RADIOS	-----	-----	910630E	921120E	941101E	941130E
	1930T7B0	RELOC RADIOS	-----	-----	-----	-----	910801E	910901E
NOTE:	PROJECT 1930T7B0 RELOCATES 1 ANT AND PULLS 1 ANT POLE. 485 EIG TO PUBLISH PSA AMENDMENT							
FT LONESOME	9515T9D0 **	RELOC AF RADIOS	910301E	910630E	920228E	931215E	940401E	940530E
	**RADIO RELOCATION BEING DONE UNDER FARR PGM.							
GRAND ISLE LA	9687A1D0	INSTL AF RADIOS	910430E	910530E	910730E	910920E	???????	???????
JEDBURG	9521T9D0	RELOC RADIOS	-----	-----	-----	910615E	921001E	921230E
KENO	0026T0B0	REL RADIO/ANT	-----	-----	-----	910301E	910901E	910915E
KEY WEST	9532T9D0 ‡	REL JSS RADIOS	-----	-----	910228E	910515E	910801E	910830E
	‡ RADIOS CURRENTLY IN HFR TWR; NAVY WILL REMOVE HFR TWR.							
NICA PEAK	1912T7B0	RELOC RADIOS	-----	-----	-----	-----	910401E	910430E
MT LAGUNA	9568R9D0	RMV HFR TOWER	910419E	910630E	911230E	930915E	940701E	940830E
COMMENTS:	HFR TOWER WILL HOUSE AF RADIOS UNTIL AFTER FARR.							
NASHWAULK	1921T7B0	RELOC RADIOS	-----	-----	-----	-----	910801E	910830E
	485 EIG TO PUBLISH PSA AMENDMENT.							
N. TRURO	0301T8B0	RELOC RADIOS	-----	-----	-----	-----	910401E	910430E
ODESSA	9574R9D0	RMV RADIOS	910628E	910830E	920330E	930405E	940601E	940630E
PASO ROBLES	9647T0D0 ‡	REL JSS RADIOS	-----	-----	-----	-----	910401E	910430E
	‡ PROJECT DELAYED BECAUSE OF TELCO.							
PLATTSBURGH	1950A8B0	INSTL VHF RADIOS	-----	-----	-----	-----	910317E	910330E
PT ARENA	9590R9D0	RMV JSS RADIOS	910830E	911030E	920130E	920215E	930201E	930330E
UTICA	1905T7B0	RELOC RADIOS	-----	-----	-----	-----	910701E	910730E
	1949A8B0	INSTL VHF RADIOS	-----	-----	-----	-----	910701E	910730E
SAN CLEMENTE IS	9660A0D0	INSTALL RADIOS	-----	-----	910220E	910228E	910501E	910630E
COMMENT:	NEED NAVY RML UPGRADE BEFORE RADIOS CAN BE INSTALLED AND OPERATED.							
SAN PEDRO	9649R0D0	RMV RADIOS	-----	-----	-----	910228E	910701E	910730E
NOTE:	CAN NOT REMOVE THE RADIOS UNTIL THE SAN CLEMENTE RADIOS ARE INSTALLED AND OPERATIONAL.							
SILVER CITY	9606R9D0	RMV AF RADIOS	910901E	911030E	911230E	920930E	950105E	950130E
WATFORD CITY	1935T7B0	RELOC RADIOS	-----	-----	-----	-----	910415E	910515E
	485 EIG TO PUBLISH PSA AMENDMENT.							
EL PASO	9507R9D0	RMV RADIOS	-----	910215E	910530E	921215E	940901E	940930E

FARR PROGRAM----- SITE SURVEY SCHEDULE/PSA STATUS (TO INCLUDE RELATED JSS PSAS)

DATE: 5 FEB 91

NOTES: P-PLANNED; DT-DESK TOP

LOCATION	SITE SURVEY		SITE SURVEY		FARR PROGRAM		JSS PROGRAM		REMARKS
	DATE (S)	REMARKS	DATE	REMARKS	PSA DATE	CONCUR DATE	PSA DATE	CONCUR DATE	
HILL VALLEY CA	28 FEB-2 MAR 89	ALL ACTIONS ARE BIA PENDING EA	18/28/89		17/25/90	7/26/90	7/27/90	AMEND NO.1	
SEA AERO CTR	N/A								
HARBOR RIDGE CA	8-12 MAY 89 DT	CURRENTLY DESIGNATED AS TEST SITE	8/22/89		11/21/90	1/20/90	1/20/90	CRESCENT CITY	
HAWAII	22-26 MAY 89	ADJ PSA TO USE EXISTING BLDG TO HOUSE AIRS-4	11/17/89					PSA UPDATE REQ	
MT KAJA HI	10-14 JUL 89	NEED PLAN ON RELOCATION OF EXISTING COMM	11/30/89						
MT SANTA ROSA GUAM	17-21 JUL 89		9/28/89					NOT REQ	
LOCAMA WAS VA	14-18 AUG 89		12/18/89						
LAKE CHARLES LA	28-31 AUG 89		12/12/89		12/12/89	12/13/90	12/13/90	JSS AMEND-1:1/25/91//FARR-NEED JPO SIG	
PASO ROBLES CA	11-15 SEP 89		10/25/90		11/26/90	11/27/90	11/27/90	AMEND NO.1-8/31/90 BOTH FARR/JSS	
SALEM OR	30 OCT-3 NOV 89		7/20/90		8/20/90			SEE NOTE 2	
JEORING SC	27 NOV-1 DEC 89		10/12/90		10/12/90	12/13/90	12/13/90	AMEND 1:12/26/90(JSS)	
CROSS CITY FL	11-15 DEC 89	RE-SURVEYED 3-5 OCT 90 BECAUSE OF BEA DISTANCE/NEW BLDG REQ	103/02/90					ALL INCLUSIVE PSA//PSA UPDATE PENDING	
TYDALL AFB FL	8-12 JAN 90		106/07/90						
FLORHAM NJ	22-27 JAN 90	HAD TO RE-SURVEY (1-3 OCT 90) BECAUSE OF SITE CONFIGURATION	106/08/90					FARR PSA IN PUB	
GIBBSBORO NJ	12-16 FEB 90		106/21/90					NEED PSA FOR N.D.	
PT FISHER NC	26-30 FEB 90		111/13/90						
SLIDELL LA	19-23 MAR 90		19/23/90		110/08/90			PUB PSA IN FEB 91	
KEY WEST FL	9-13 APR 90		110/01/90					JSS/RADIOS	
ISAN CLEMENTE IS CA	23-27 APR 90								
WATFORD CITY ND	21-24 MAY 90								
EAGLE PEAK TX	4-8 JUN 90 DT	NEED FAA SW RGN COMMENTS EAGLE PK VS S DIABLO PRIOR TO PSA	110/02/90						
PERLING IN	4-8 JUN 90 DT		7/06/91						
BUCKS HARBOR ME	18-22 JUN 90								
HILVERHEAD NY	9-12 JUL 90		111/07/90						
PERLEY ND	6-10 AUG 90		111/22/90						
MASHAUNT ON	6-10 AUG 90								
EMPIRE MI	15-17 OCT 90								
ALJO AZ	10-14 DEC 90								
LAKESIDE MT	17-19 OCT 90								
MORALES TX	11-15 MAR 91 DT	DESK TOP AT SAN ANTONIO TX WITH ROCKSPRINGS AND KING MTN	102/06/91						
ROCKSPRINGS TX	11-15 MAR 91 DT								
MT JOCKE HI	8-12 APR 91								
WHLTEHOUSE FL	28-31 JAN 91								
PT LONGSHORE FL	25 FEB-1 MAR 91								
UTICA NY	3-7 JUN 91								
MICA PEAK WA	13-17 MAY 91								
MT LAGUNA CA	3-5 APR 91								
WALKSTON MT	13-17 MAY 91								
PATRICK AFB FL	25 FEB-1 MAR 91								
KING MOUNTAIN TX	11-15 MAR 91 DT								
NORTH TRURO MA	3-7 JUN 91								
FOLLOM TX	28-30 NOV 90								
QUANTANARO BAY CU	N/A								
THURPHY BORE AK	20-29 AUG 90								

NOTE 1: SAN PEDRO-PSA FOR RFL/RADOME IS DATED 09/26/89.

NOTE 2: 14 AUG 90 JSS PSA COVERED ITEMS TO BE DONE PRIOR TO/DURING FARR. ANOTHER JSS PSA IS BEING PUBLISHED COVERING WORK TO BE DONE AFTER FARR.

7/8/91

6430.2 CHG 32  
Attachment 74

84 RADES Briefing - RCIU/RMM

Attachment 10

# **REMOTE CONTROL INTERFACE UNIT (RCIU)**

- FAA DESIGNED, AND PRODUCED**
- PURPOSE:**
  - TO REMOTELY CONTROL SELECTED OPERATIONAL PARAMETERS**
  - TO ENSURE AUTOMATIC ERROR RECOVERY**
  - FOR STATUS MONITORING OF RADAR SYSTEMS**

**84 RADES HAS ACCOMPLISHED NINE  
SPECIAL RCIU EVALUATIONS.**

**THESE EVALUATIONS RESULTED  
IN A NATIONAL CHANGE PROPOSAL  
(NCP).**

**GENERATION OF A RCIU  
CHECKOUT PROCEDURE.**

**THE SITES THAT HAVE BEEN  
EVALUATED ARE:**

**WADFORD CITY ND (J-76)**

**SALEM OR (J-81)**

**SLIDELL LA (J-13)**

**PATRICK FL (J-05)**

**SAN PEDRO CA (J-31)**

**ELLINGTON TX (J-15)**

**OILTON TX (J-16)**

**ODESSA TX (J-26)**

**EL PASO TX (J-27)**

**--RECOMMENDATIONS:**

**---FUTURE RCIU VERIFICATIONS  
PERFORMED BY FAA SITE  
PERSONNEL**

**---USE 84 RADES RCIU CHECKOUT  
PROCEDURES**

**---ARTCC SYSTEM ENGINEER (SE)  
SHOULD NOTIFY THE DATA QUALITY  
MONITOR AT THE SOCC WHEN PARA-  
METER CHANGES ARE IMPLEMENTED**

**---THE SE SHOULD NOT EXCEED THE  
STATION EVALUATION REPORT  
EQUIPMENT PARAMETERS**



7/8/91

6430.2 CHG 32  
Attachment 74

CD-2 Briefing

Attachment 11

**CD-2 BRIEFING**

**BY CAPT JEFFREY S. RICHARDSON**

**OVERVIEW**

- JOINT RADES/FAA TESTING**
- CLUTTER PROCESSOR MODS**
- 30/90-DAY INFIELD TEST**
- LE CURVE MODS**
- ACCEPTANCE TEST PLAN**
- REMAINING ISSUES**

## CLUTTER PROCESSOR MODS

- PURPOSE: INCREASE SENSITIVITY/  
REDUCE CLUTTER
- PASO ROBLES, WHITEHOUSE, ELWOOD  
DATA USED
- 3 OCT - 15 DEC 89 DEVELOPMENT  
TESTING
- 6-22 MAR 90 FINAL TESTING

**30/90-DAY INFIELD TEST**

- OSKALOOSA, COOPERSVILLE,  
OKLAHOMA CITY, PASO ROBLES
- 14 MAY - 8 JUN 90 INSTALLATION
- 30-DAY RESULTS AT PASO ROBLES:
  - 40% REDUCTION IN FALSE TARGETS
  - 3-6% INCREASE TRACKING OVER SEA  
CLUTTER/CLEAR AIR
  - 4-8% DECREASE TRACKING OVER  
GROUND CLUTTER
- 90-DAY RESULTS EXTENDED
  - WAITING FOR FAA REPORT

LE CURVE MODS

- OSKALOOSA PROBLEMS
  - 13-17 AUG 90 INVESTIGATION
  - RESULTS: ADDITIONAL WORK ON LE CURVES NECESSARY
- RADES DEVELOPED NEW LE CURVES  
DEC 90
- FAA PREPARED NEW PROMS JAN 91
  - REQUIRE TESTING

# CD-2C COMMISSIONING BACKGROUND

- SPECIAL EVALUATION AT ELWOOD NJ REVEALED PROBLEM WITH RADIAL TARGETS (DEC 88)
- -- MULTIPLE TARGET PROCESSING (MTP)
  - 1AF TASKED RADES TO EVALUATE MTP PROBLEMS (JAN 89)
  - RADES RECOMMENDS COMMISSIONING CD- 2C (JUL 89)
- RADES REPORTS SEARCH DATA RATE CONTROLS ARE UNACCEPTABLE (NOV 89)
- RADES MODIFIES DF/LE CURVES & MTI PROCESSING (DEC 90)

# CD-2C COMMISSIONING CURRENT USAF POSITION

- - 1AF RECOMMENDS COMMISSIONING WITH FOLLOWING STIPULATIONS (FEB 91)
- -- LISTING OF SITES FROM FAA PRIOR TO JRPG APPROVAL
- -- REQUESTS HANDLED ON INDIVIDUAL BASIS (IAW JRPG #72)
- -- SITES LESS THAN 24 HR STAFFING NOT CONSIDERED
- --- RADES ESTABLISHES DATA BASE ON COMMISSIONED GD-2C
  - RADES DETERMINES EFFICIENCY OF AUTOMATIC CONTROL FEATURES
- -- POSSIBLE CONSIDERATION OF REMAINING SITES FOR COMMISSIONING (LESS THAN 24HR STAFFING)

7/8/91

6430.2 CHG 32  
Attachment 74

USAF G-A-G Radio Briefing

Attachment 12

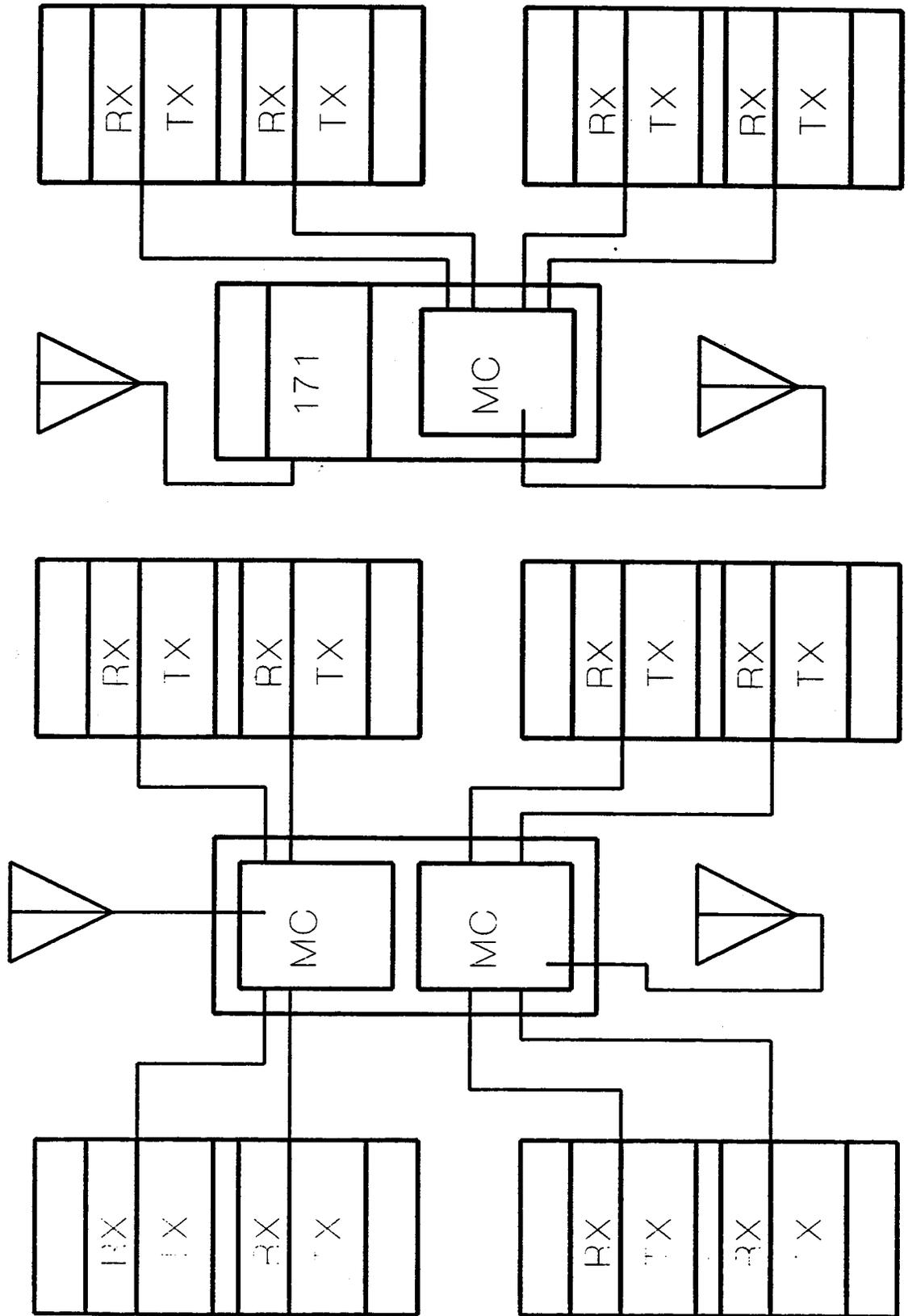
# JSS RADIO UPGRADE PROGRAMS

CAPT GARY KELLER  
1AF/SCX

# JSS RADIO UPGRADE PROGRAMS

## Overview

- UHF Radio Encryption (FCS)
- Tactical Secure Voice Program (TSVP)
- Have Quick II (HQ II)
- VHF Radios
- Site Configuration



# UHF RADIO ENCRYPTION Requirement

## Partial Encryption of JSS UHF Radios

- Develop Prototype/ Proof of Concept
- Incorporate Concept Into Existing JSS Equip

# UHF RADIO ENCRYPTION Documentation

- HQ NORAD/NJ5 Msg, 132200Z Oct 89, FCS  
Integration with TAC Secure Voice  
Encryption of G/A/G UHF Radios
- GTEI Ltr, 16 Oct 89, ECP 89-088, Voice  
Encryption for JSS Radios

# UHF RADIO ENCRYPTION General Schedule

- Review GTEI Engineering Design of Prototype Jan - Feb 91
- Build Prototype/ Test Mar - Nov 91
- Operations Verification Nov - Dec 91
- Modification of Southern SOCCs Jan - Mar 92

# UHF RADIO ENCRYPTION Issues

- Engineering Design
  - Modification to GFE Equipment
  - Wideband vs Narrowband
  - Crypto Installation at SOCCs
- Funding
- Not TSVP

# TACTICAL SECURE VOICE PROGRAM Requirement

## Air Staff Downward Directed Program

- Secure All G/A/G Radios Air Force - Wide
- Three Phase Program

# TACTICAL SECURE VOICE PROGRAM Documentation

- PMD 8012(4)/33401/28010F - Implementation  
Of Tactical Secure Voice Equip, 23 Feb 88
- Air Defense TSVP Database, 18 Sep 89
- Tactical Secure Voice Requirements,  
8 Nov 90

# TACTICAL SECURE VOICE PROGRAM Issues

- Engineering Design
  - Integration with FCS
- Space requirement at SOCCs

## **HAVE QUICK II Requirement**

- **Jam - Resistant Voice Capability**
- **Ability To Interoperate With Airborne  
Assets**

## HAVE QUICK II Documentation

- PMD 7256(1)/27423F, AN/GRC-XXX Have Quick UHF Transceivers, 4 Jun 87
- HQ TAC/DRC Ltr, Unmanned Sites Requiring Have Quick Ground Radio Remote Capability, 11 Aug 87
- 1 AF/DOY Ltr, First Air Force Communications Requirements, 31 Mar 88

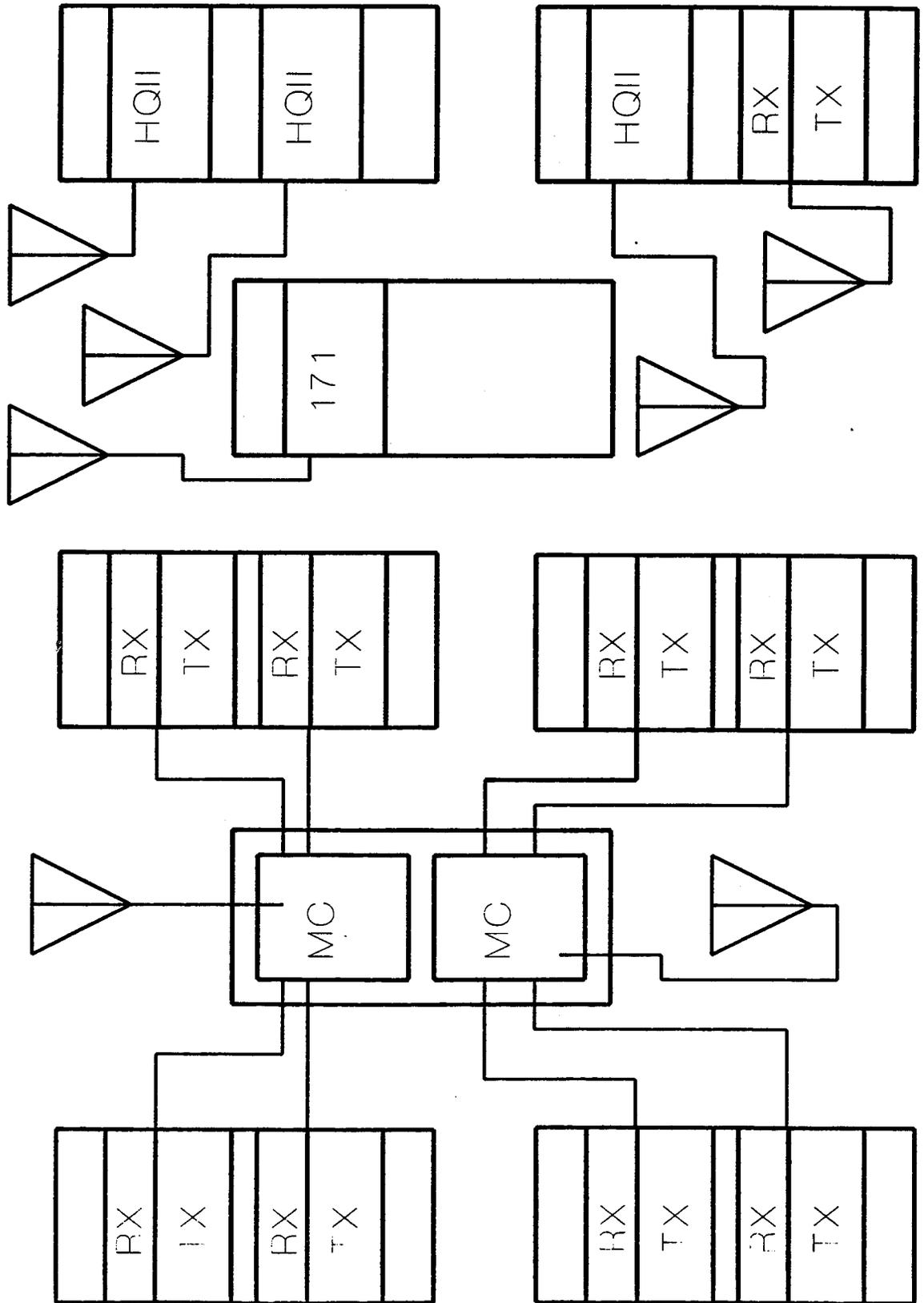
## **HAVE QUICK II**

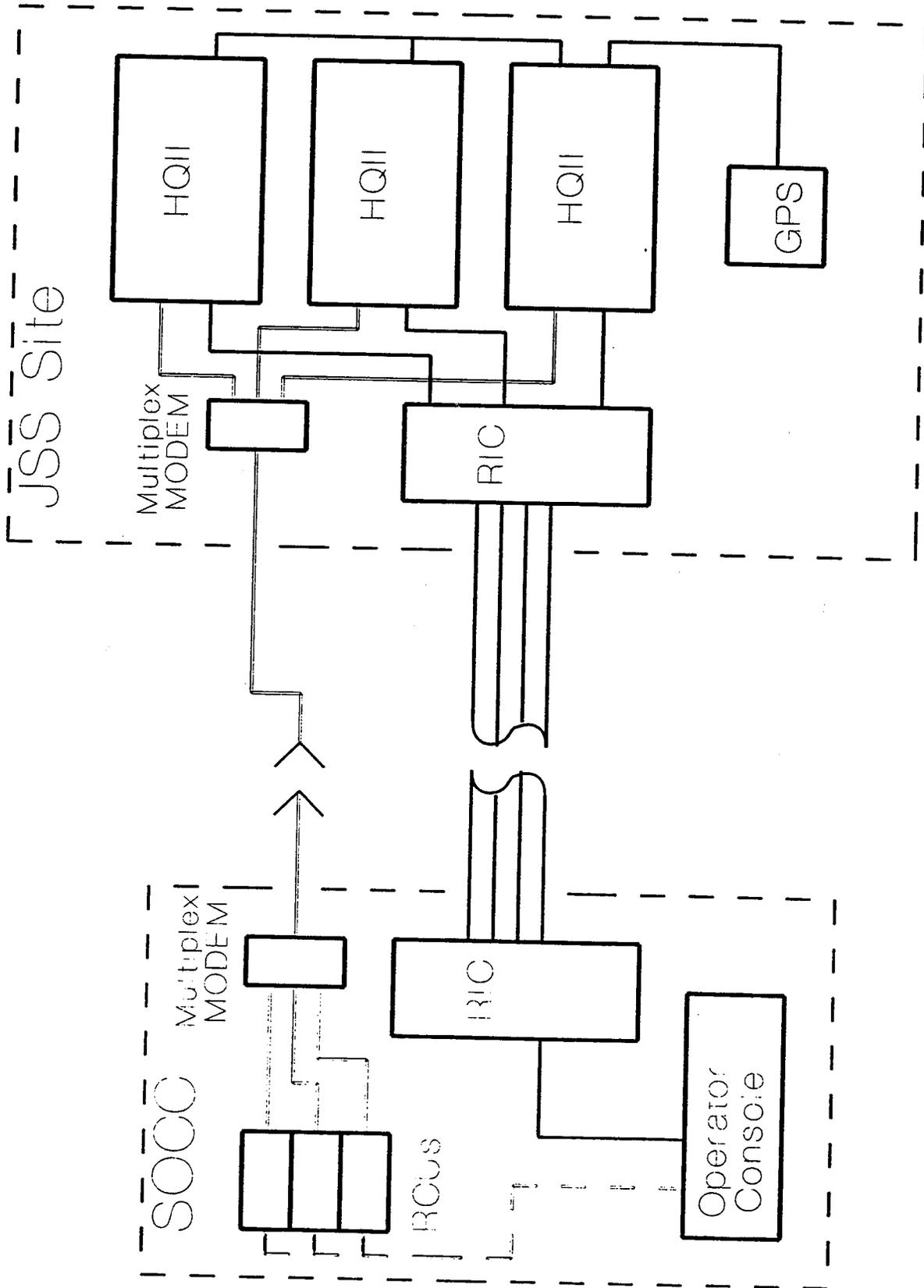
### **Description**

- **AN/GRC-171B(V)4 AM/FM UHF Transceiver**
- **Embedded Anti-Jam (AJ) Capability**
- **7000 Channels (225 to 399.975 MHz)**
- **20W AM/50W FM Carrier Output**
- **Remote Control Capability**
- **MTTR 20 Minutes**
- **MTBF 5600 Hours**

## HAVE QUICK II General Schedule

- Install (3) Have Quick II Radios At Site - FY92
- Antenna/Pole Installation - FY92
- Remote Control Unit Installation At SOCC - FY92





## **HAVE QUICK II Issues**

- **Word-of-Day (WOD)**
- **Training**
- **Spares**
- **Maintenance**

# VHF RADIOS Requirement

Install VHF Radios at JSS Sites to Provide  
the Capability to Control ADF-16 Fighters  
during Air Defense and Counternarcotics  
Missions

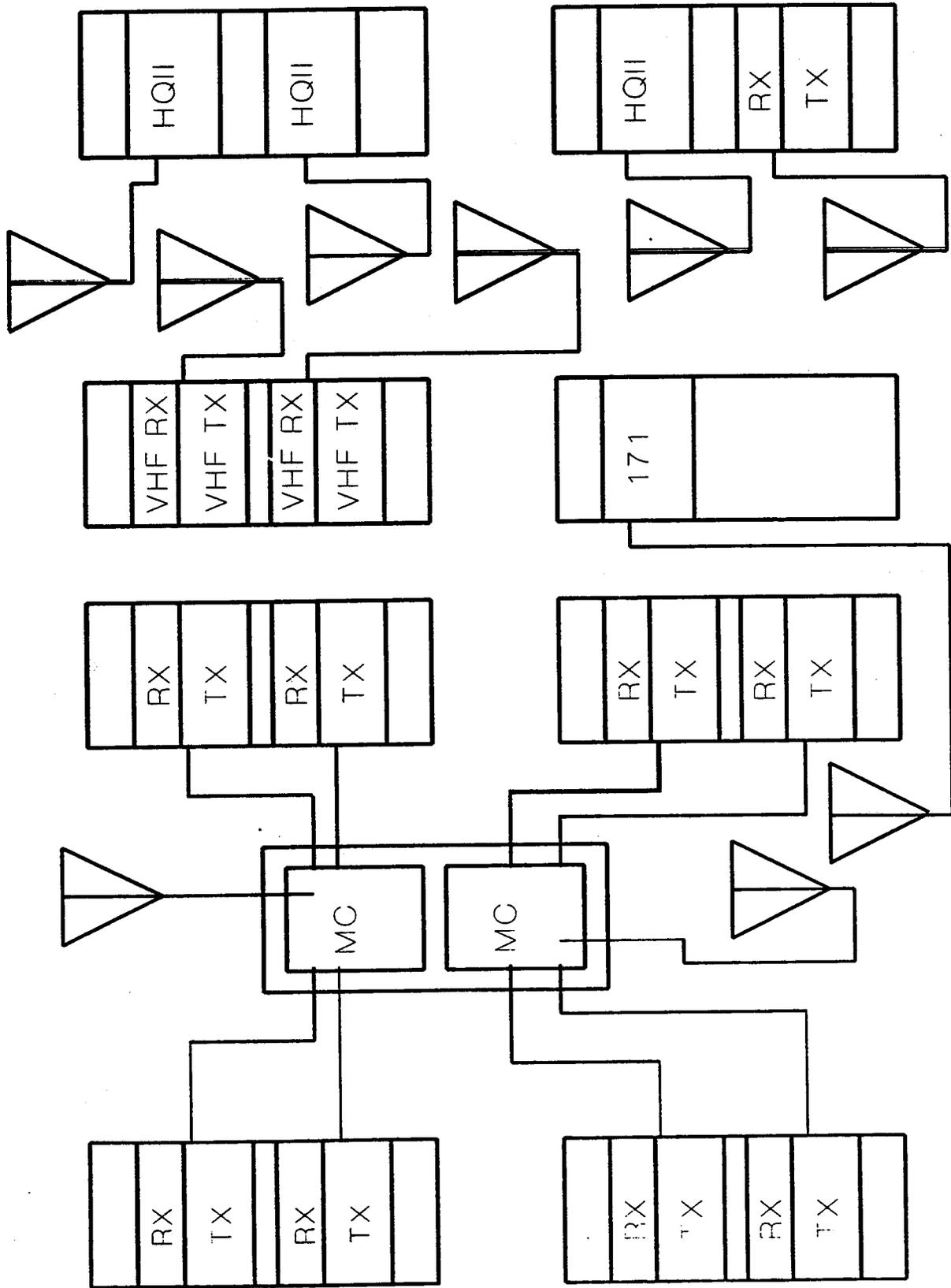
# VHF RADIOS Documentation

CSRD TAC Multi 89-8007, VHF Radios At  
JSS Sites, 17 Oct 89

# VHF RADIOS

## General Schedule

- CSRD Submitted - 5 May 89
- Technical Solution - 26 Jun 89
- HQ TAC Validation Of Req - 6 Feb 90
- Funding Available - Unknown



# VHF RADIOS Issues

- Unfunded Requirement
- Availability Of Frequencies

## SITE CONFIGURATION

- Current Configuration
  - Up To 12 Single Channel UHF Radios
  - 1 Multi-Channel UHF Radio
- Future Configuration
  - Up To 9 Single Channel UHF Radios
  - 1 Multi-Channel UHF Radio
  - 3 Have Quick II Radios
  - 2 Single Channel VHF Radios

# JSS RADIO UPGRADE PROGRAMS Summary

- Increased Capability Required To  
Support Air Defense/ Counternarcotic

## Mission

- Lack Of Technical Solutions/ Funding  
Remain as Primary Concerns



7/8/91

6430.2 CHG 32  
Attachment 74

FIRRS Status Briefing

Attachment 13

EID JSS PROJECTS  
REQUIRED RADIO WORK  
AS OF 6 FEB 91  
WITH TEAM COMPLETION DATE = E

DEFINITIONS

E.....ESTIMATED  
SSD.....SITE SURVEY DATE  
PSAS.....PROGRAM SUPPORT AGREEMENT  
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DATES: 880902E.....YEAR/MONTH/DATE/ESTIMATED

PROJECT NO	TITLE	BASE/SITE					
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-----							
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9698T1D0	RELOC ANTS	-----	-----	-----	-----	-----	910217E
FINLEY							
9687T0D0	RELOC RADIOS	-----	-----	910630E	921120E	941101E	941130E
1930T7B0	RELOC RADIOS	-----	-----	-----	-----	910801E	910901E
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9687A1D0	INSTL AF RADIOS	910430E	910530E	910730E	910920E	???????	???????
JEDEBURG							
9521T9D0 **	RELOC RADIOS	-----	-----	-----	910615E	921001E	921230E
	**HFR TWR NOW BEING REMOVED AFTER FARR BY FARR PGM.						
KENO							
0026T0B0	REL RADIO/ANT	-----	-----	-----	910301E	910901E	910915E
KEY WEST							
9532T9D0 ‡	REL JSS RADIOS	-----	-----	910228E	910515E	910801E	910830E
	‡ RADIOS CURRENTLY IN HFR TWR; NAVY WILL REMOVE HFR TWR.						
MICA PEAK							
1912T7B0	RELOC RADIOS	-----	-----	-----	-----	910401E	910430E
MT LAGUNA							
9568R9D0	RMV HFR TOWER	910419E	910630E	911230E	930915E	940701E	940830E
COMMENTS:	HFR TOWER WILL HOUSE AF RADIOS UNTIL AFTER FARR.						
NASHUAUK							
1921T7B0	RELOC RADIOS	-----	-----	-----	-----	910801E	910830E
	485 EIG TO PUBLISH PSA AMENDMENT.						

N. TRURO

0301T8B0 RELOC RADIOS ----- 910401E 910430E

ODESSA

9574R9D0 RMV RADIOS 910628E 910830E 920330E 930405E 940601E 940630E

PASO ROBLES

9647T0D0 ‡ REL JSS RADIOS ----- 910401E 910430E  
‡ PROJECT DELAYED BECAUSE OF TELCO.

PLATTSBURGH

1950A8B0 INSTL VHF RADIOS ----- 910317E 910330E

PT ARENA

9590R9D0 RMV JSS RADIOS 910830E 911030E 920130E 920215E 930201E 930330E

REMSEN (UTICA)

1905T7B0 RELOC RADIOS ----- 910701E 910730E  
1949A8B0 INSTL VHF RADIOS ----- 910701E 910730E

RIVERHEAD

COMMENT: AF RADIOS WILL BE RELOCATED AFTER ARSR-4 INSTALLATION UNDER FARR PGM.  
485 EIG NEEDS TO AMEND PSA AND GET INDORSEMENT

SAN CLEMENTE IS

9660A0D0 INSTALL RADIOS ----- 910220E 910228E 910501E 910630E  
COMMENT: NEED NAVY RML UPGRADE BEFORE RADIOS CAN BE INSTALLED AND OPERATED.

SAN PEDRO

9649R0D0 RMV RADIOS ----- 910228E 910701E 910730E

COMMENT: CAN NOT REMOVE THE RADIOS UNTIL THE SAN CLEMENTE RADIOS ARE INSTALLED  
AND OPERATIONAL.

SILVER CITY

9606R9D0 \* RMV AF RADIOS 910901E 911030E 911230E 920930E 950105E 950130E

WATFORD CITY

1935T7B0 RELOC RADIOS ----- 910415E 910515E  
485 EIG TO PUBLISH PSA AMENDMENT.

EL PASO

9507R9D0 RMV RADIOS ----- 910215E 910530E 921215E 940901E 940930E  
9508R9D0 RMV GPA-124 ----- 910215E 910530E 921215E 910901E 940930E

## EID COMPOSITE LISTING OF RADIO REMOVAL/RECONFIGURATIONS (E=ESTIMATED START/COMPLETION DATES)

BASE/SITE	PROJECT NO	TITLE	SSC	PSAS	PSAR	ECD	TSD	TCD
CRESCENT CITY	9501R9D0	RMV JSS RADIOS	910510E	910530E	910730E	920215E	930201E	930430E
ELLINGTON	9510R9D0	RMV RADIOS	-----	910920E	911230E	920310E	931105E	931130E
	9698T1D0	RELOC ANTS	-----	-----	-----	-----	-----	910217E
FINLEY	9687T0D0	RELOC RADIOS	-----	-----	910630E	921120E	941101E	941130E
	1930T7B0	RELOC RADIOS	-----	-----	-----	-----	910801E	910901E
NOTE:	PROJECT 1930T7B0 RELOCATES 1 ANT AND PULLS 1 ANT POLE. 485 EIG TO PUBLISH PSA AMENDMENT							
FT LONESOME	9515T9D0 **	RELOC AF RADIOS	910301E	910630E	920228E	931215E	940401E	940530E
	**RADIO RELOCATION BEING DONE UNDER FARR PGM.							
GRAND ISLE LA	9687A1D0	IN STL AF RADIOS	910430E	910530E	910730E	910920E	???????	???????
JEDBURG	9521T9D0	RELOC RADIOS	-----	-----	-----	910615E	921001E	921230E
KENO	0026T0B0	REL RADIO/ANT	-----	-----	-----	910301E	910901E	910915E
KEY WEST	9532T9D0 ‡	REL JSS RADIOS	-----	-----	910228E	910515E	910801E	910830E
	‡ RADIOS CURRENTLY IN HFR TWR; NAVY WILL REMOVE HFR TWR.							
MICA PEAK	1912T7B0	RELOC RADIOS	-----	-----	-----	-----	910401E	910430E
MT LAGUNA	9568R9D0	RMV HFR TOWER	910419E	910630E	911230E	930915E	940701E	940830E
COMMENTS:	HFR TOWER WILL HOUSE AF RADIOS UNTIL AFTER FARR.							
MASHAULK	1921T7B0	RELOC RADIOS	-----	-----	-----	-----	910801E	910830E
	485 EIG TO PUBLISH PSA AMENDMENT.							
M. TRURO	0301T8B0	RELOC RADIOS	-----	-----	-----	-----	910401E	910430E
ODESSA	9574R9D0	RMV RADIOS	910628E	910830E	920330E	930405E	940601E	940630E
PASO ROBLES	9647T0D0 ‡	REL JSS RADIOS	-----	-----	-----	-----	910401E	910430E
	‡ PROJECT DELAYED BECAUSE OF TELCO.							
PLATTSBURGH	1950A8B0	IN STL VHF RADIOS	-----	-----	-----	-----	910317E	910330E
PT ARENA	9590R9D0	RMV JSS RADIOS	910830E	911030E	920130E	920215E	930201E	930330E
UTICA	1905T7B0	RELOC RADIOS	-----	-----	-----	-----	910701E	910730E
	1949A8B0	IN STL VHF RADIOS	-----	-----	-----	-----	910701E	910730E
SAN CLEMENTE IS	9660A0D0	INSTALL RADIOS	-----	-----	910220E	910228E	910501E	910630E
COMMENT:	NEED NAVY RML UPGRADE BEFORE RADIOS CAN BE INSTALLED AND OPERATED.							
SAN PEDRO	9649R0D0	RMV RADIOS	-----	-----	-----	910228E	910701E	910730E
NOTE:	CAN NOT REMOVE THE RADIOS UNTIL THE SAN CLEMENTE RADIOS ARE INSTALLED AND OPERATIONAL.							
SILVER CITY	9606R9D0	RMV AF RADIOS	910901E	911030E	911230E	920930E	950105E	950130E
WATFORD CITY	1935T7B0	RELOC RADIOS	-----	-----	-----	-----	910415E	910515E
	485 EIG TO PUBLISH PSA AMENDMENT.							
EL PASO	9507R9D0	RMV RADIOS	-----	910215E	910530E	921215E	940901E	940930E

FARR PROGRAM----- SITE SURVEY SCHEDULE/PSA STATUS (TO INCLUDE RELATED JSS PSAs)

DATE: 5 FEB 91

NOTES: P-PLANNED; DT-DESK TOP

LOCATION	SITE SURVEY DATE (S)	SITE SURVEY REMARKS	FARR PROGRAM		JSS PROGRAM		REMARKS
			PSA DATE	CONCUR DATE	PSA DATE	CONCUR DATE	
HILL VALLEY CA	28 FEB-2 MAR 89	ALL ACTIONS ARE BIA PENDING EA	07/28/89	7/25/90	7/74/90	AMEND NO.1	
FAA AERO CTR	N/A						
MALIBU RIDGE CA	8-12 MAY 89 DT	CURRENTLY DESIGNATED AS TEST SITE	08/22/89	7/27/90	12/20/90	CRESCENT CITY	
MAKOHU WA	22-26 MAY 89	ADD PSA TO USE EXISTING BLDG TO HOUSE ABR-4	11/17/89			PSA UPDATE REQ	
MT TAALA HI	10-14 JUL 89	NEED PLAN ON RELOCATION OF EXISTING COMM	11/30/89				
MT SANTA ROSA CALIF	17-21 JUL 89		9/28/89			NOT REQ	
OCENA BAS VA	14-18 AUG 89		12/18/89				
LAKE CHARLES LA	28-31 AUG 89		12/12/89				
PASO ROBLES CA	11-15 SEP 89		01/25/90	7/26/90	12/27/89	JSS AMEND-1:1/23/91//FARR-NEED JPO SIG	
SALEN OR	30 OCT-3 NOV 89		7/20/90			AMEND NO.1-8/31/90 BOTH FARR/JSS	
JEDBURG SC	27 NOV-1 DEC 89		01/29/90			SEE NOTE 2	
CROSS CITY FL	11-15 DEC 89	RE-SURVEYED 3-5 OCT 90 BECAUSE OF BEA DISTANCE/NEW BLDG REQ	03/02/90			ALL INCLUSIVE PSA/PSA UPDATE PENDING	
STONDALE AFB FL	8-12 JAN 90	HAD TO RE-SURVEY (1-3 OCT 90) BECAUSE OF SITE CONFIGURATION	06/07/90				
RICHMOND FL	22-27 JAN 90		06/08/90			FARR PSA IN PUB	
CLARKSBORO NJ	12-16 FEB 90		06/21/90			NEED PSA FOR M.D.	
FT FISHER NC	26-30 FEB 90		11/13/90			PUB PSA IN FEB 91	
SLIDELL LA	19-23 MAR 90		9/23/90			JSS/RADIOS	
KEY WEST FL	9-13 APR 90		7/20/90				
SAN CLEMENTE IS CAL	23-27 APR 90		10/01/90			WAITING SW RCH COMMENTS	
WATFORD CITY ND	21-24 MAY 90		10/02/90				
EAGLE PEAK TX	4-8 JUN 90 DT	NEED FAA SW RCH COMMENTS EAGLE PK VS S DIABLO PRIOR TO PSA	2/06/91				
DEWING IN	4-8 JUN 90 DT						
BUCKS BARBOR ME	18-22 JUN 90						
RIVERHEAD NY	9-12 JUL 90						
FIRLEY ND	6-10 AUG 90		11/07/90			PUB FARR/JSS PSA IN FEB 91	
WASHBAUM MN	6-10 AUG 90		11/22/90				
EMPIRE MI	15-17 OCT 90						
LAJO AZ	10-14 DEC 90						
LAKESIDE MT	12-19 OCT 90		02/06/91				
HORRALES TX	11-13 MAR 91 DT						
ROCKSPRINGS TX	11-13 MAR 91 DT	DESK TOP AT SAN ANTONIO TX WITH ROCKSPRINGS AND KING WITH					
MT HOSKEE HI	8-12 APR 91						
WHITEHOUSE FL	28-31 JAN 91						
FT LOWESBORO FL	25 FEB-1 MAR 91						
UTICA NY	3-7 JUN 91						
MICA PEAK WA	13-17 MAY 91						
MT LAGUNA CA	3-3 MAY 91						
WALSHAMTON MT	13-17 MAY 91						
PATLUCK AFB FL	25 FEB-1 MAR 91	USE EXIST BLDG/23 FT TWR TOPSIDE AREA WHERE OLD TWR IS LOC					
TRUNG MOUNTAIN TX	11-13 MAR 91 DT						
NORTH TUBRO WA	3-7 JUN 91						
OLLETON TX	26-30 NOV 90						
GUANTANAMO BAY CU	N/A						
BURBY DORE AK	20-29 AUG 90						PSA FOR BNY ???

NOTE 1: SAN PEDRO-PSA FOR BNY/RADOME IS DATED 09/26/89.

NOTE 2: 14 AUG 90 JSS PSA COVERED ITEMS TO BE DONE PRIOR TO/DURING FARR. ANOTHER JSS PSA IS BEING PUBLISHED COVERING WORK TO BE DONE AFTER FARR.

7/8/91

6430.2 CHG 32  
Attachment 74

84 RADES Briefing - RCIU/RMM

Attachment 10

# REMOTE CONTROL INTERFACE UNIT (RCIU)

- FAA DESIGNED AND PRODUCED
- PURPOSE:
  - TO REMOTELY CONTROL SELECTED OPERATIONAL PARAMETERS
  - TO ENSURE AUTOMATIC ERROR RECOVERY
  - FOR STATUS MONITORING OF RADAR SYSTEMS

**84 RADES HAS ACCOMPLISHED NINE  
SPECIAL RCIU EVALUATIONS.**

**THESE EVALUATIONS RESULTED  
IN A NATIONAL CHANGE PROPOSAL  
(NCP).**

**GENERATION OF A RCIU  
CHECKOUT PROCEDURE.**

**THE SITES THAT HAVE BEEN  
EVALUATED ARE:**

- WADFORD CITY ND (J-76)**
- SALEM OR (J-81)**
- SLIDELL LA (J-13)**
- PATRICK FL (J-05)**
- SAN PEDRO CA (J-31)**
- ELLINGTON TX (J-15)**
- OILTON TX (J-16)**
- ODESSA TX (J-26)**
- EL PASO TX (J-27)**

**--RECOMMENDATIONS:**

**---FUTURE RCIU VERIFICATIONS  
PERFORMED BY FAA SITE  
PERSONNEL**

**---USE 84 RADES RCIU CHECKOUT  
PROCEDURES**

**---ARTCC SYSTEM ENGINEER (SE)  
SHOULD NOTIFY THE DATA QUALITY  
MONITOR AT THE SOCC WHEN PARA--  
METER CHANGES ARE IMPLEMENTED**

**---THE SE SHOULD NOT EXCEED THE  
STATION EVALUATION REPORT  
EQUIPMENT PARAMETERS**



7/8/91

6430.2 CHG 32  
Attachment 74

CD-2 Briefing

Attachment 11

**CD-2 BRIEFING**

**BY CAPT JEFFREY S. RICHARDSON**

## OVERVIEW

- JOINT RADES/FAA TESTING
  - CLUTTER PROCESSOR MODS
  - 30/90-DAY INFIEL D TEST
  - LE CURVE MODS
- ACCEPTANCE TEST PLAN
- REMAINING ISSUES

**CLUTTER PROCESSOR MODS**

- PURPOSE: INCREASE SENSITIVITY /  
REDUCE CLUTTER
- PASO ROBLES, WHITEHOUSE, ELWOOD  
DATA USED
- 3 OCT - 15 DEC 89 DEVELOPMENT  
TESTING
- 6-22 MAR 90 FINAL TESTING

**30/90-DAY INFIELD TEST**

- OSKALOOSA, COOPERSVILLE,  
OKLAHOMA CITY, PASO ROBLES
- 14 MAY - 8 JUN 90 INSTALLATION
- 30-DAY RESULTS AT PASO ROBLES:
  - 40% REDUCTION IN FALSE TARGETS
  - 3-6% INCREASE TRACKING OVER SEA  
CLUTTER/CLEAR AIR
  - 4-8% DECREASE TRACKING OVER  
GROUND CLUTTER
- 90-DAY RESULTS EXTENDED
  - WAITING FOR FAA REPORT

LE CURVE MODS

- OSKALOOSA PROBLEMS
  - 13-17 AUG 90 INVESTIGATION
  - RESULTS: ADDITIONAL WORK ON LE CURVES NECESSARY
- RADES DEVELOPED NEW LE CURVES  
DEC 90
- FAA PREPARED NEW PROMS JAN 91
  - REQUIRE TESTING

# CD-2C COMMISSIONING BACKGROUND

- SPECIAL EVALUATION AT ELWOOD NJ REVEALED PROBLEM WITH RADIAL TARGETS (DEC 88)
- -- MULTIPLE TARGET PROCESSING (MTP)
  - 1AF TASKED RADES TO EVALUATE MTP PROBLEMS (JAN 89)
  - RADES RECOMMENDS COMMISSIONING CD- 2C (JUL 89)
- RADES REPORTS SEARCH DATA RATE CONTROLS ARE UNACCEPTABLE (NOV 89)
- RADES MODIFIES DF/LE CURVES & MTI PROCESSING (DEC 90)

# CD-2C COMMISSIONING CURRENT USAF POSITION

- - 1AF RECOMMENDS COMMISSIONING WITH FOLLOWING STIPULATIONS (FEB 91)
- -- LISTING OF SITES FROM FAA PRIOR TO JRPG APPROVAL
- -- REQUESTS HANDLED ON INDIVIDUAL BASIS (IAW JRPG #72)
- -- SITES LESS THAN 24 HR STAFFING NOT CONSIDERED
- --- RADES ESTABLISHES DATA BASE ON COMMISSIONED CD-2C
  - RADES DETERMINES EFFICIENCY OF AUTOMATIC CONTROL FEATURES
- -- POSSIBLE CONSIDERATION OF REMAINING SITES FOR COMMISSIONING (LESS THAN 24HR STAFFING)

7/8/91

6430.2 CHG 32  
Attachment 74

USAF G-A-G Radio Briefing

Attachment 12

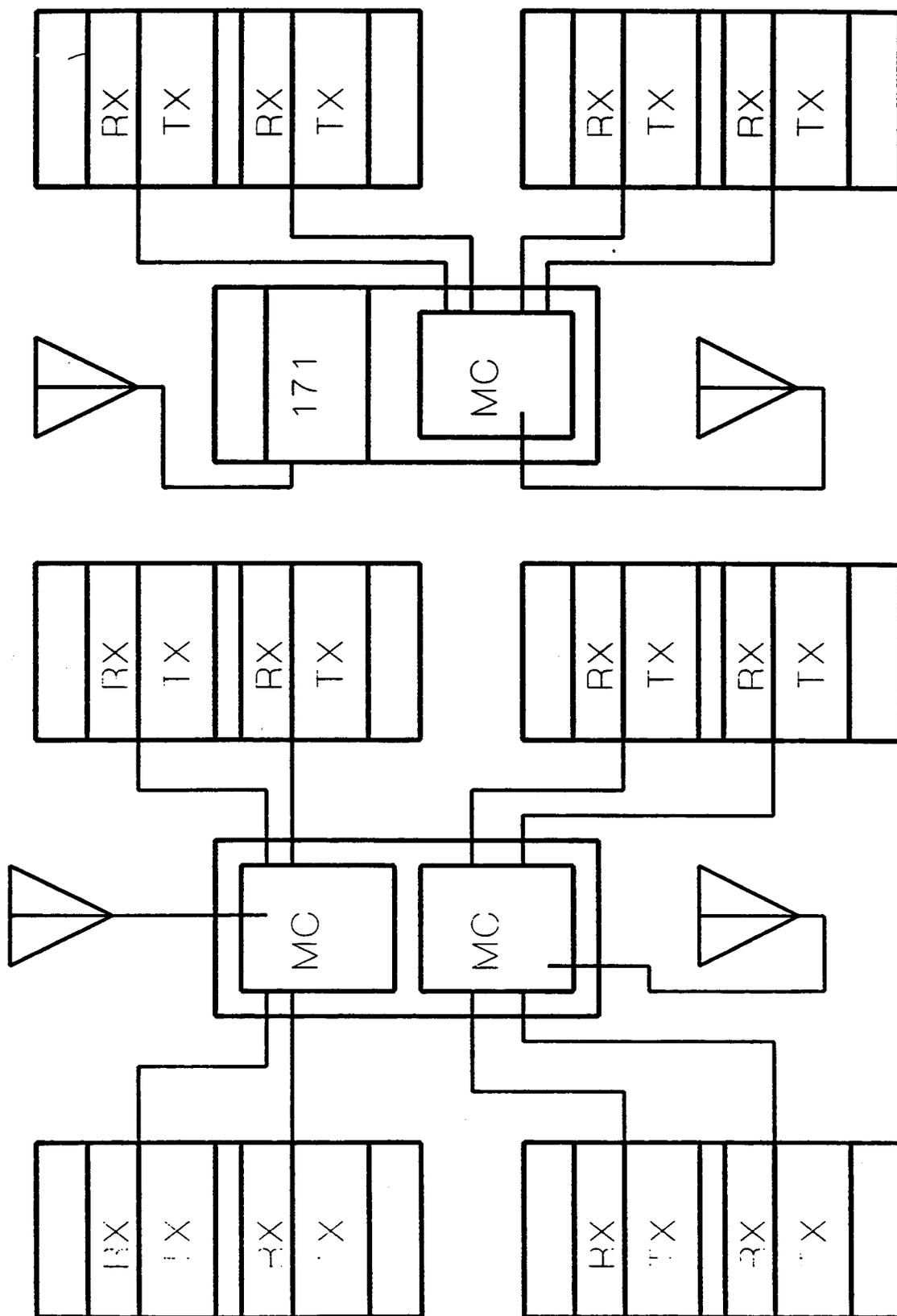
# JSS RADIO UPGRADE PROGRAMS

CAPT GARY KELLER  
1AF/SCX

# JSS RADIO UPGRADE PROGRAMS

## Overview

- UHF Radio Encryption (FCS)
- Tactical Secure Voice Program (TSVP)
- Have Quick II (HQ II)
- VHF Radios
- Site Configuration



# UHF RADIO ENCRYPTION Requirement

## Partial Encryption of JSS UHF Radios

- Develop Prototype/ Proof of Concept
- Incorporate Concept Into Existing JSS Equip

# UHF RADIO ENCRYPTION Documentation

- HQ NORAD/NJ5 Msg, 132200Z Oct 89, FCS  
Integration with TAC Secure Voice  
Encryption of G/A/G UHF Radios
- GTETI Ltr, 16 Oct 89, ECP 89-088, Voice  
Encryption for JSS Radios

# UHF RADIO ENCRYPTION General Schedule

- Review GTEI Engineering Design of Prototype Jan - Feb 91
- Build Prototype/ Test Mar - Nov 91
- Operations Verification Nov - Dec 91
- Modification of Southern SOCCs Jan - Mar 92

# UHF RADIO ENCRYPTION Issues

- Engineering Design
  - Modification to GFE Equipment
  - Wideband vs Narrowband
  - Crypto Installation at SOCCs
- Funding
- Not TSVP

# TACTICAL SECURE VOICE PROGRAM Requirement

## Air Staff Downward Directed Program

- Secure All G/A/G Radios Air Force - Wide
- Three Phase Program

# TACTICAL SECURE VOICE PROGRAM Documentation

- PMD 8012(4)/33401/28010F - Implementation  
Of Tactical Secure Voice Equip, 23 Feb 88
- Air Defense TSVP Database, 18 Sep 89
- Tactical Secure Voice Requirements,  
8 Nov 90

# TACTICAL SECURE VOICE PROGRAM Issues

- Engineering Design
  - Integration with FCS
- Space requirement at SOCCs

## **HAVE QUICK II Requirement**

- **Jam-Resistant Voice Capability**
- **Ability To Interoperate With Airborne Assets**

## HAVE QUICK II Documentation

- PMD 7256(1)/27423F, AN/GRC-XXX Have Quick UHF Transceivers, 4 Jun 87
- HQ TAC/DRC Ltr, Unmanned Sites Requiring Have Quick Ground Radio Remote Capability, 11 Aug 87
- 1 AF/DOY Ltr, First Air Force Communications Requirements, 31 Mar 88

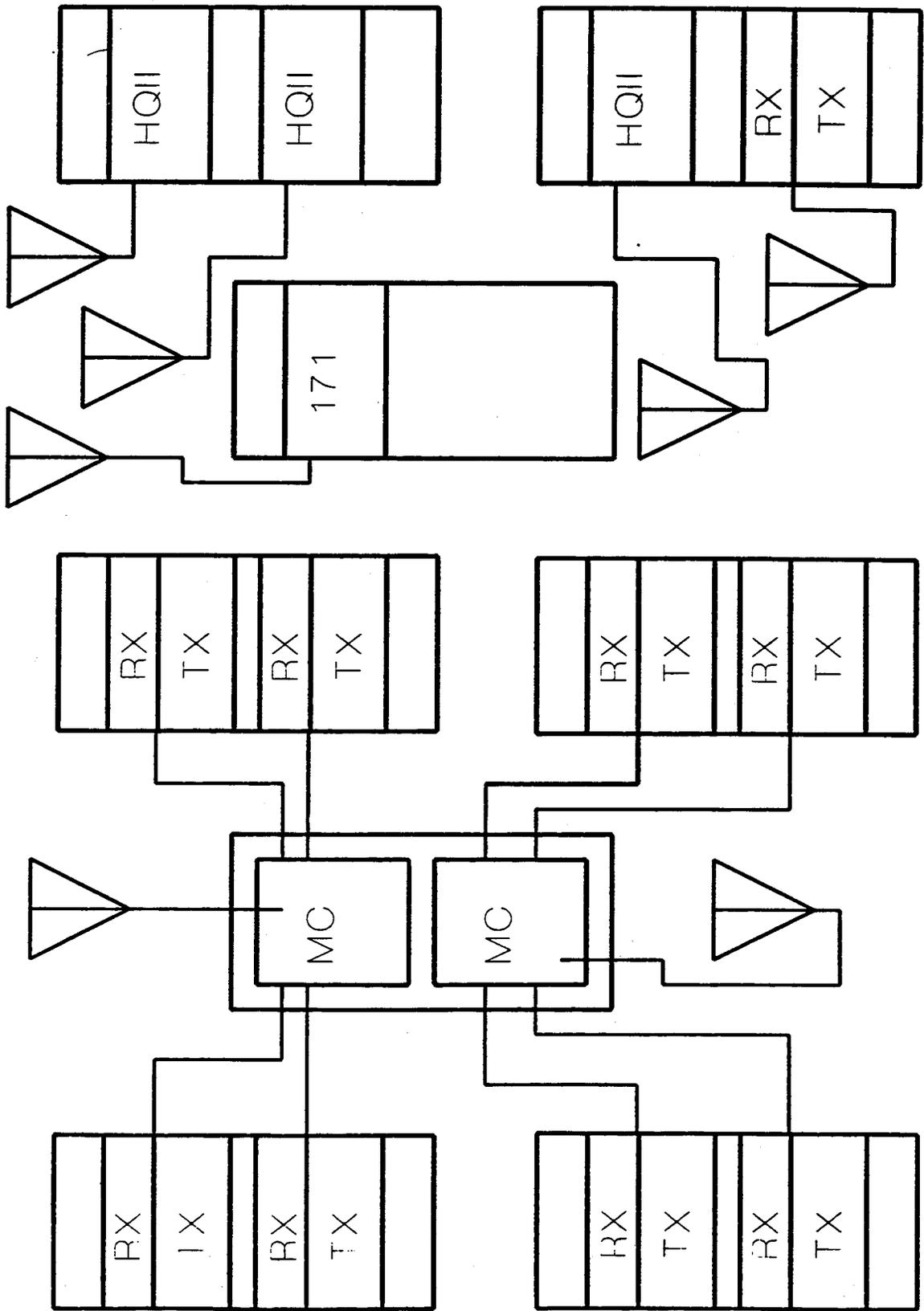
## **HAVE QUICK II**

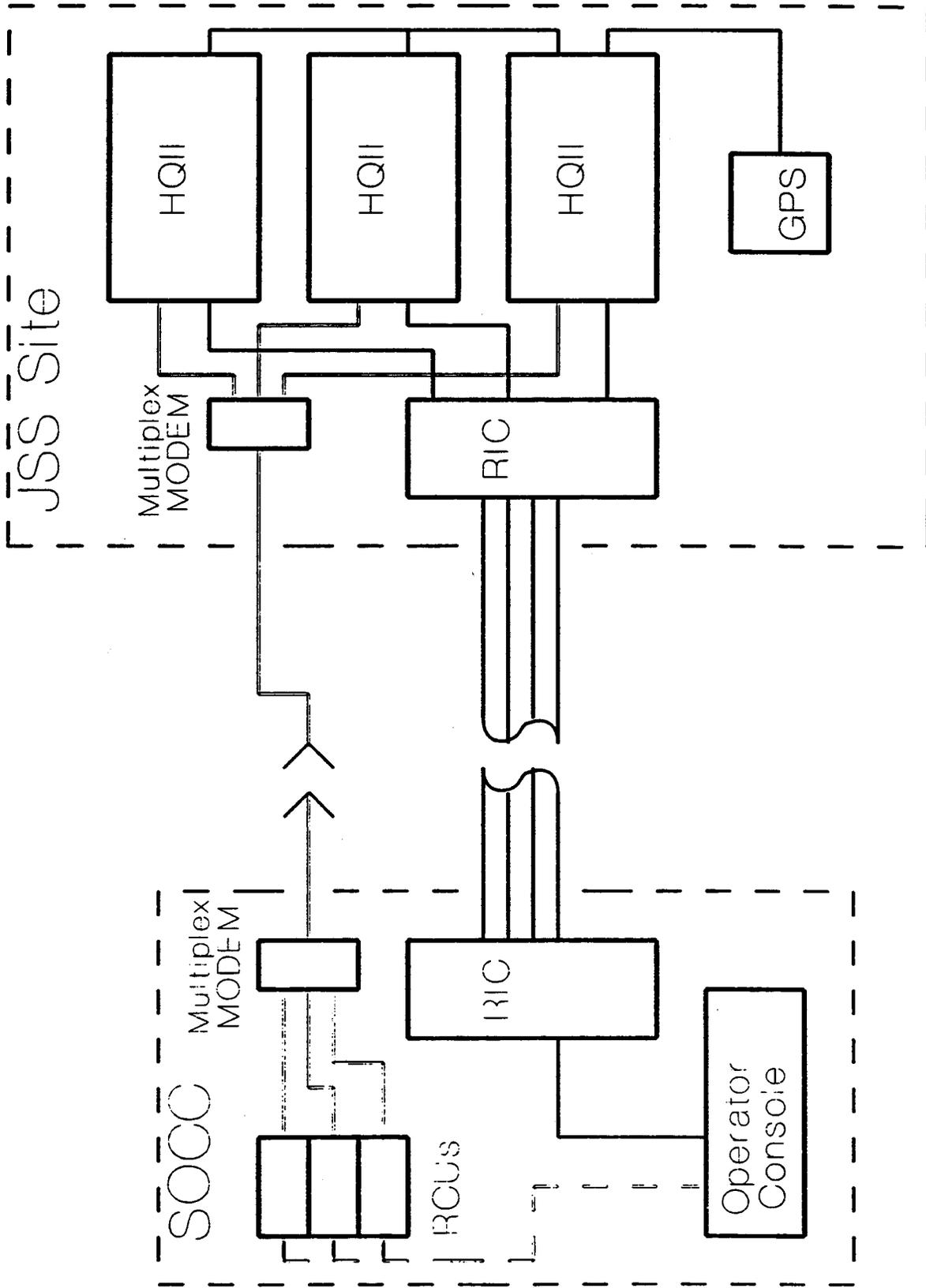
### **Description**

- **AN/GRC-171B(V)4 AM/FM UHF Transceiver**
- **Embedded Anti-Jam (AJ) Capability**
- **7000 Channels (225 to 399.975 MHz)**
- **20W AM/50W FM Carrier Output**
- **Remote Control Capability**
- **MTTR 20 Minutes**
- **MTBF 5600 Hours**

## HAVE QUICK II General Schedule

- Install (3) Have Quick II Radios At Site - FY92
- Antenna/Pole Installation - FY92
- Remote Control Unit Installation At SOCC - FY92





## **HAVE QUICK II Issues**

- **Word-of-Day (WOD)**
- **Training**
- **Spares**
- **Maintenance**

# VHF RADIOS Requirement

Install VHF Radios at JSS Sites to Provide  
the Capability to Control ADF-16 Fighters  
during Air Defense and Counternarcotics  
Missions

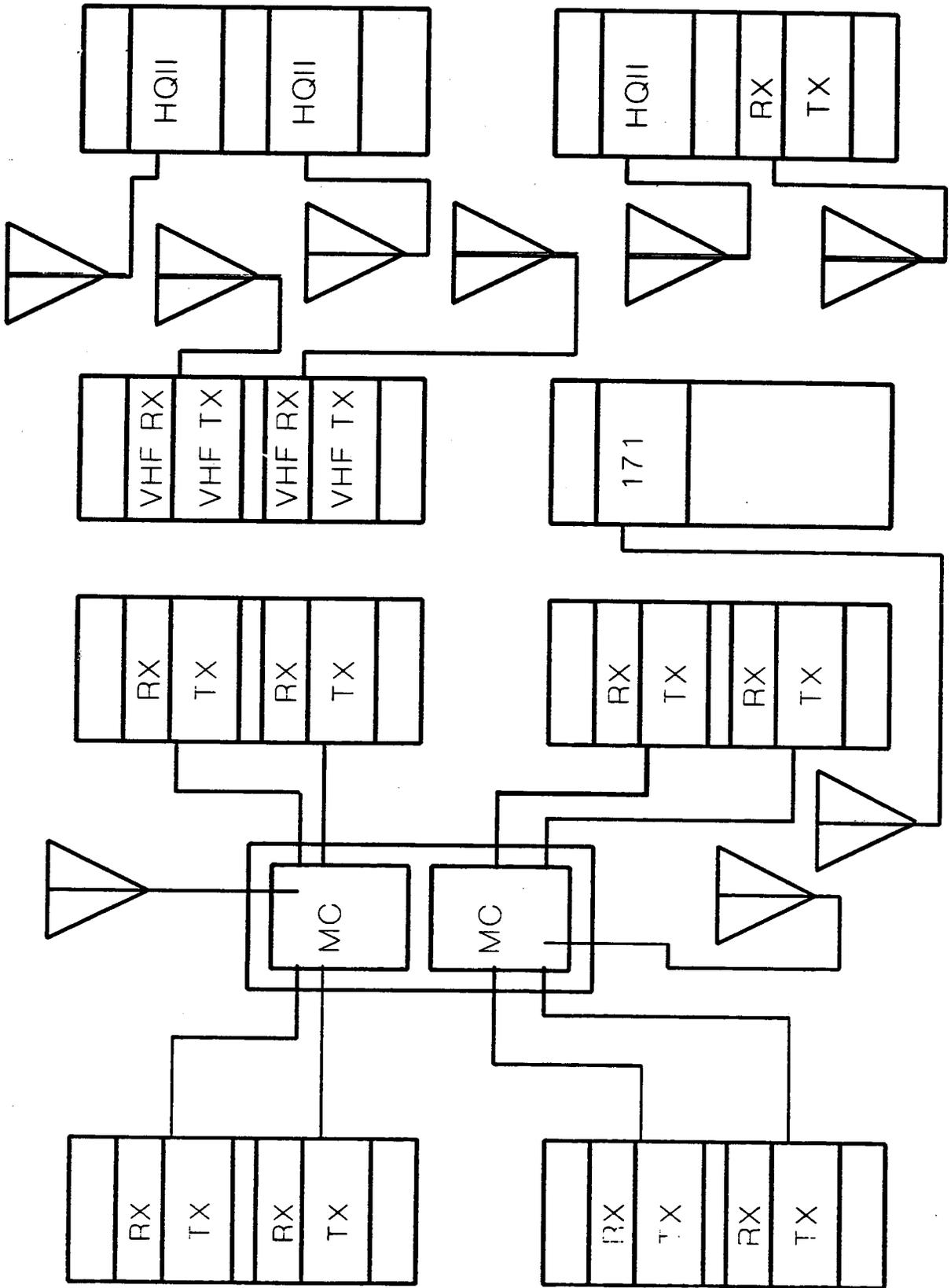
# VHF RADIOS Documentation

CSRD TAC Multi 89-8007, VHF Radios At  
JSS Sites, 17 Oct 89

# VHF RADIOS

## General Schedule

- CSRD Submitted - 5 May 89
- Technical Solution - 26 Jun 89
- HQ TAC Validation Of Req - 6 Feb 90
- Funding Available - Unknown



# VHF RADIOS Issues

- **Unfunded Requirement**
- **Availability Of Frequencies**

## SITE CONFIGURATION

- Current Configuration
  - Up To 12 Single Channel UHF Radios
  - 1 Multi-Channel UHF Radio
- Future Configuration
  - Up To 9 Single Channel UHF Radios
  - 1 Multi-Channel UHF Radio
  - 3 Have Quick II Radios
  - 2 Single Channel VHF Radios

# JSS RADIO UPGRADE PROGRAMS Summary

- Increased Capability Required To Support Air Defense/ Counternarcotic

## Mission

- Lack Of Technical Solutions/ Funding Remain as Primary Concerns



7/8/91

6430.2 CHG 32  
Attachment 74

FIRRS Status Briefing

Attachment 13

7/8/91

FAA/AIR FORCE RADAR REPLACEMENT (FARR)

ICELAND AIR DEFENSE SYSTEM (IADS)

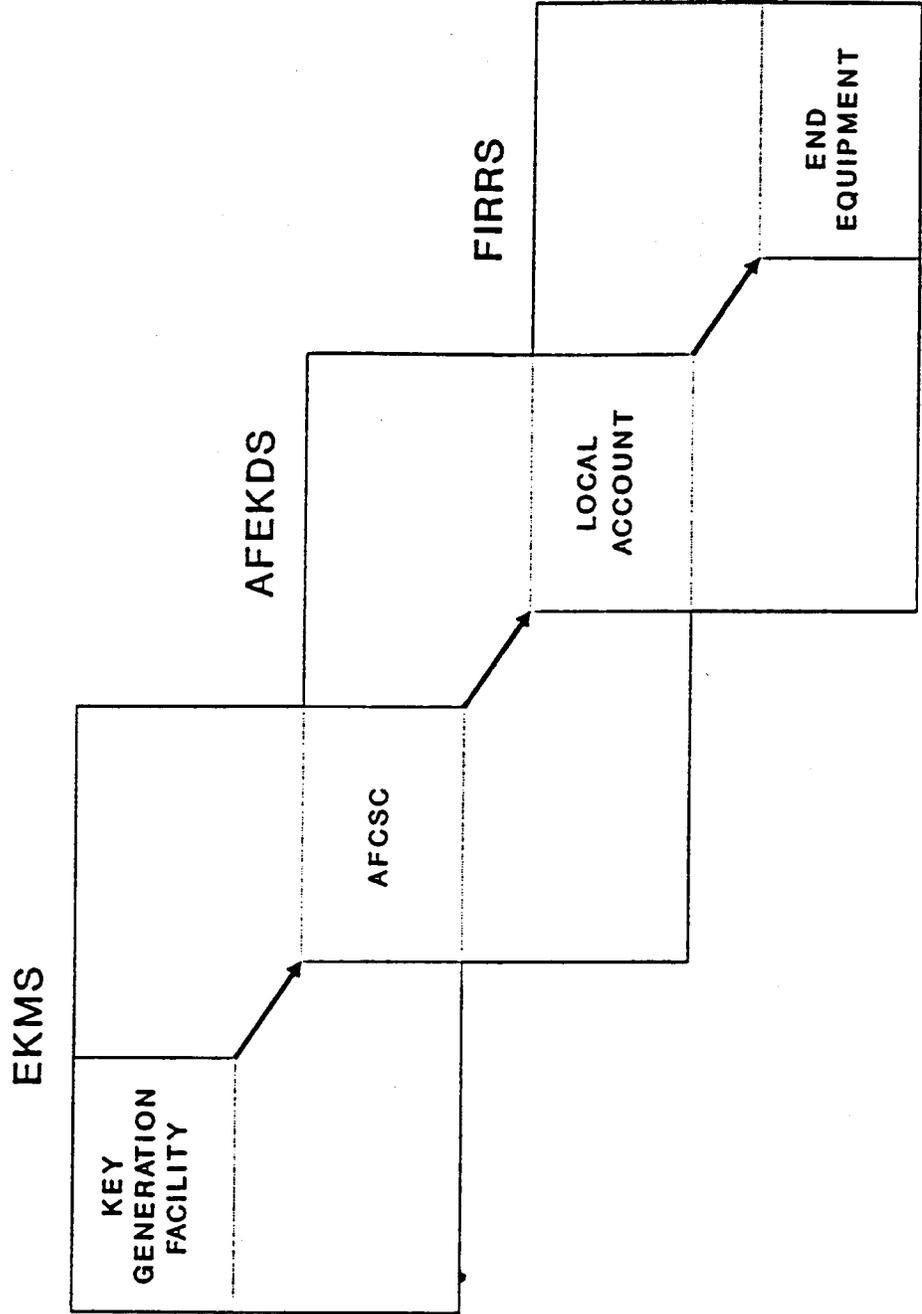
REMOTE REKEYING SYSTEM (FIRRS)

PRESENTED BY: MSGT THORNTON  
HQ TAC/DRCS

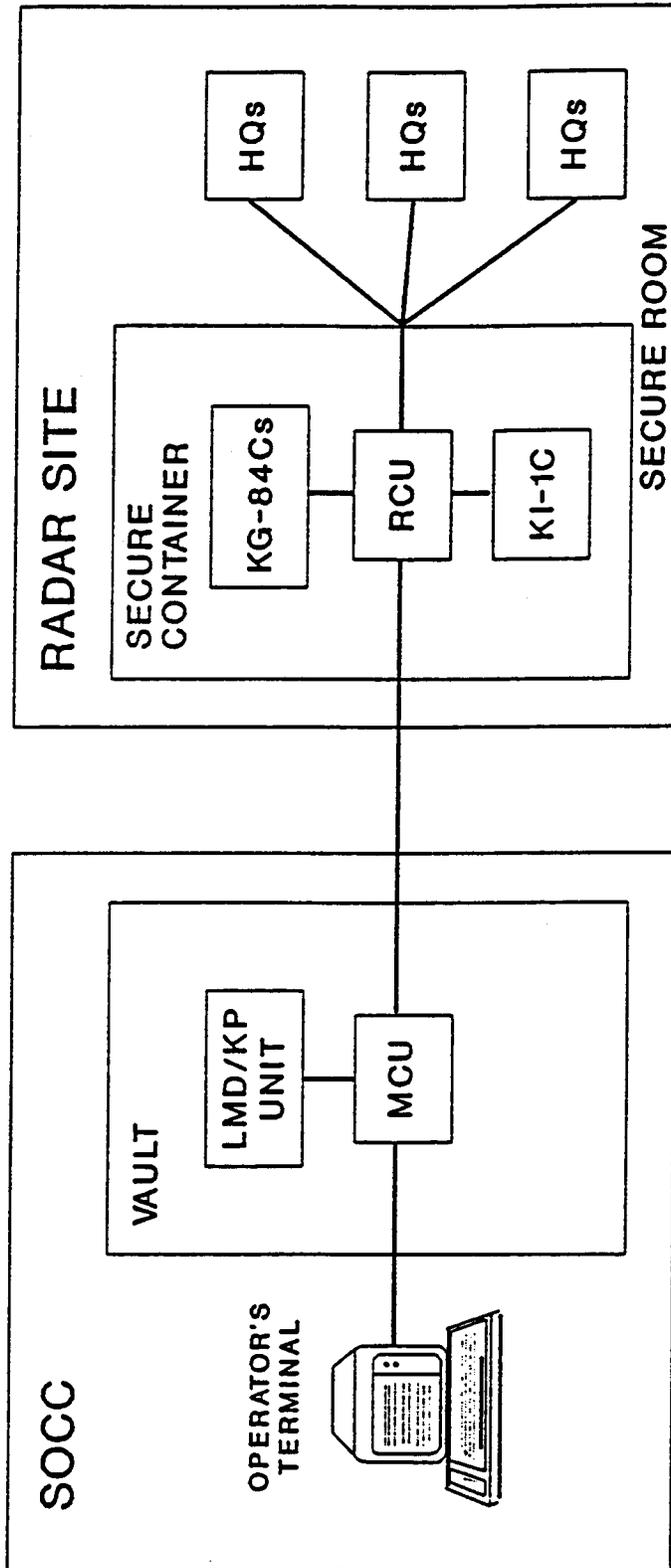
FARR/IADS REMOTE  
REKEY SYSTEM (FIRRS)

- UNDER DEVELOPMENT BY NSA, INITIALLY TO SATISFY USAF REQUIREMENTS TO REMOTELY REKEY COMSEC AND TRANSEC EQUIPMENT FOR FARR AND IADS
  - EVENTUALLY EXTEND CAPABILITIES TO GENERIC SYSTEM
  - MUST BE COMPATIBLE WITH EKMS AND AFEKDS
- LONG TERM GOAL OF ELECTRONIC KEY MANAGEMENT IS TO MINIMIZE RISK BY REMOVING HARD COPY FROM KEY MANAGEMENT AND DISTRIBUTION

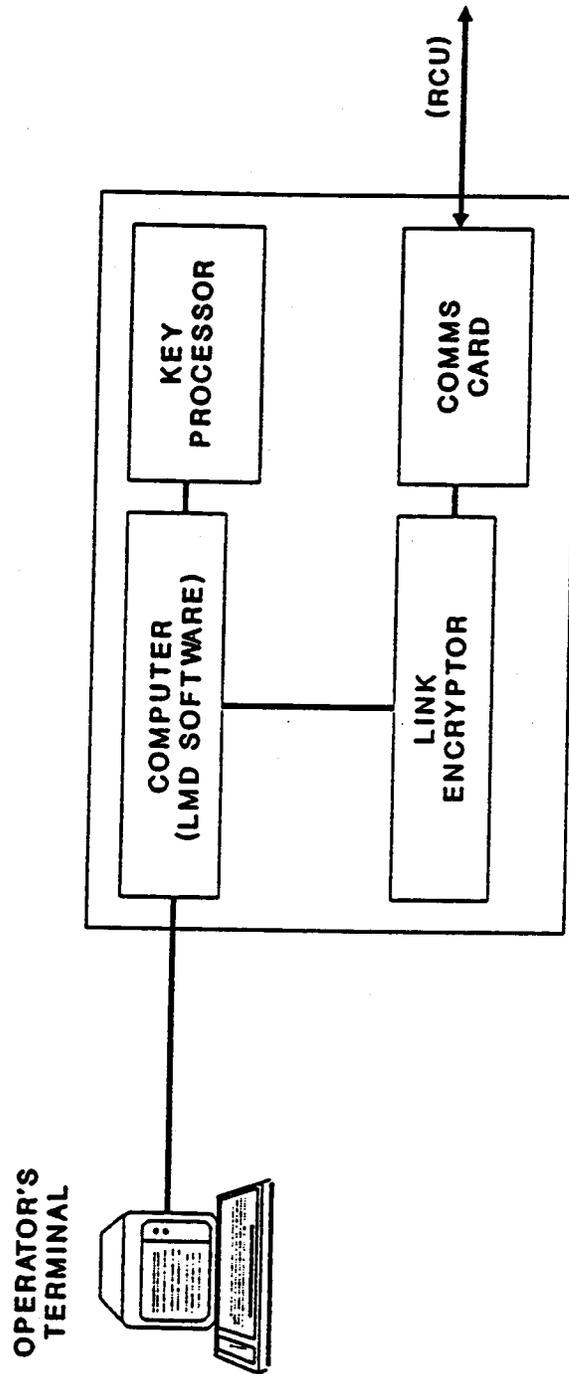
# ELECTRONIC KEY MANAGEMENT



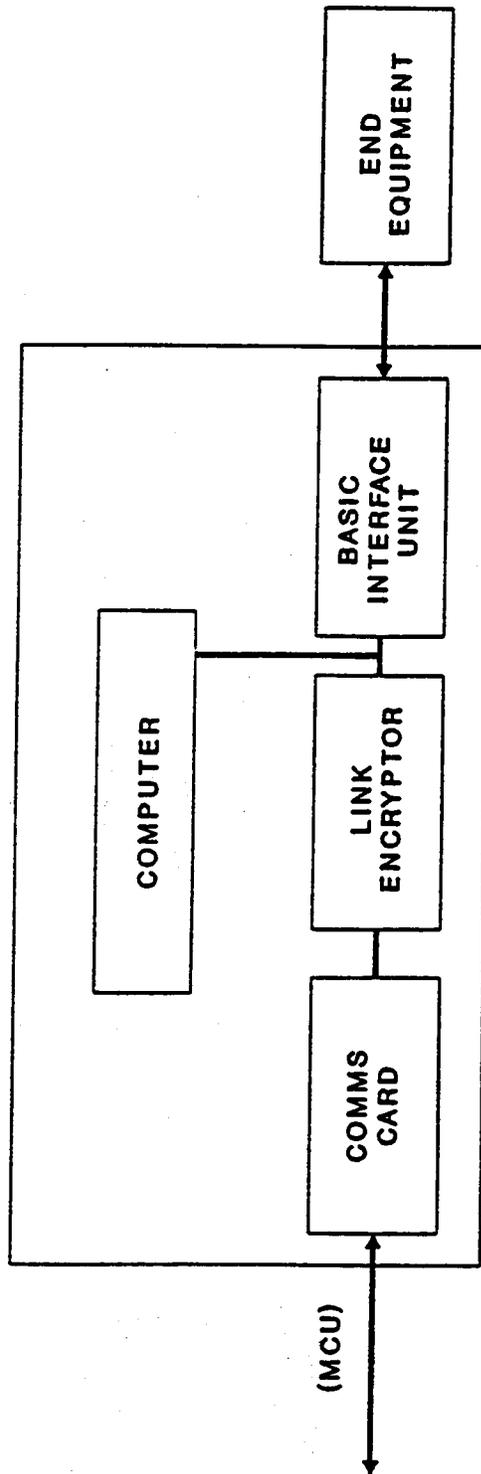
# FIRRS CONFIGURATION (FARR INSTALLATION)



# FIRRS MASTER CONTROL UNIT



# FIRRS REMOTE CONTROL UNIT



## FIRRS KEY DESIGN CRITERIA

- FIRRS RELIABILITY TO PROVIDE 90 DAY MINIMUM BETWEEN PREVENTATIVE MAINTENANCE ACTIONS
- MAXIMUM UTILIZATION OF STANDARD MILITARY OR MILITARY EQUIVALENT PIECE PARTS
- STANDARD OPERATOR INTERFACE FOR US AND NATO VERSIONS
- SYSTEM REDUNDANCY WILL PROVIDE FOR SECTOR EXPANSIONS
- FIRRS WILL PERMIT FULL OR SEMI-AUTOMATED KEY FILL OPERATIONS
- SYSTEM WILL PROVIDE HEALTH AND STATUS MONITORING OF FIRRS AND END EQUIPMENT COMPONENTS

## FIRRS STATUS

- DRAFT SYSTEM CONCEPT PAPER AND STATEMENT OF WORK IN REVIEW
- ENGINEERING DEVELOPMENT MODEL RFP PROJECTED FOR END OF MARCH 91
- DEVELOPMENT CONTRACT AWARD PLANNED FOR JULY 91
  - DELIVERS APPROXIMATELY 15 UNITS 3RD/4TH QTR FY93
  - 7 UNITS PLANNED FOR JSS SE SECTOR
- PRODUCTION CONTRACT AWARD PLANNED FOR MARCH 94
  - PRODUCTION DELIVERIES PROJECTED TO BEGIN 3RD QUARTER FY95



7/8/91

6430.2 CHG 32  
Attachment 74

JSS Security Requirements/Status

Attachment 14

# PHYSICAL SITE SECURITY

## Physical Security References

- General Guidance
  - NAT 614 - Article VIII
  - JRPG
- Ground Rules For Reduced Watch
  - JRPG 71 - Attachment 10
- Joint FAA And USAF Site Surveys

# PHYSICAL SITE SECURITY

## Perimeter Site Security

- Perimeter Fence
  - Chain Link Fence (7-Foot Fabric Plus 1-Foot Top Guard With Three Strands Barbed Wire)
  - One Vehicular Swing Access Gate
  - Fence Hardware Modified to Prevent Disassembly
  - Fabric Within 2-Inches Of Firm Soil Or Buried
  - Culvert And Fence Openings Secured
  - Placement To Not Defeat Purpose
  - Warning Signs Installed At 50-Foot Intervals
- Clear Zone
  - 20-Foot Between Fence and Exterior Structures
  - Encroachments Require FAA Waiver Or Increased Fence Height

# PHYSICAL SITE SECURITY

## Building Security

- Main Entrance Door
  - GSA Group 1-R, Three Position Dial Type
  - Changeable Combination Lock
  - Hinges On Interior Or Non Removable Pins
  - Peephole Viewing Device
- Other Doors
  - No Exterior Hardware
  - Hinges on Interior Or Non Removable Pins
  - Dead Bolt Locks With One Inch Throw

# PHYSICAL SITE SECURITY

## Building Security (Continued)

- Windows And Other Openings
  - Secure To Prevent Unauthorized Access
  - Opaque Or Cover To Deny Observation
- Ladders Modified To Prevent Roof Access
- Equipment
  - KIR-1A Secured To Equipment Rack
  - NSA Approved Shredder
  - GSA Approved Class 5 Or 6 Security Container

# PHYSICAL SITE SECURITY

## Issues

- Requirement For New Fence At Sites On Military Installations
- Processing And Payment Of FAA Invoices
- Use Same Fence For ARSR-4 Program And Reduced Watch Long Range Radar (LRR) Sites
- Overall Program Funding
- FAA Reduced Watch Site Priority



# NORTHEAST AIR DEFENSE SECTOR



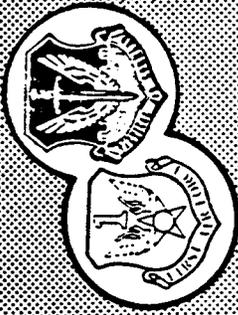
<u>LOCATION</u>	<u>SECURITY SURVEY</u>	<u>DESIGN START</u>	<u>COST START</u>
BUCKS HARBOR, ME	AUG 88	APR 90	TBD
NORTH TRURO, MA	AUG 88	OCT 89	18 JAN 91
RIVERHEAD, NY	MAR 89	APR 90	TBD

# NORTHEAST AIR DEFENSE SECTOR



<u>LOCATION</u>	<u>EST. DESIGN</u> <u>COST (000)</u>	<u>EST. CONST.</u> <u>COST (000)</u>
BUCKS HARBOR, ME	\$ 12.8	\$ 34.5
NORTH TRURO, MA	0.0	34.0
RIVERHEAD, NY	<u>12.0</u>	<u>61.3</u>
TOTAL	\$ 24.8	\$ 129.8

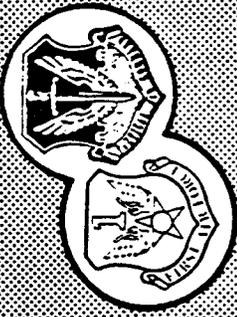
# SOUTHEAST AIR DEFENSE SECTOR



3/8/91

6430.2 CHG 32  
Attachment 74

<u>Location</u>	<u>Security Survey</u>	<u>Design Start</u>	<u>Const Start</u>
NAS Oceana VA	Jun 90	TBD	TBD
Ft Fisher NC	May 88	Complete	Complete
Jedburg SC	Jun 90	TBD	TBD
Whitehouse FL	Sep 88	Aug 90	TBD
Patrick AFB FL	Sep 88	Complete	Complete
Richmond Hts FL	Sep 88	May 90	TBD
NAS Key West FL	Jun 90	TBD	TBD
Ft Lonesome FL	Jun 90	TBD	TBD
Cross City FL	Jun 90	TBD	TBD
Tyndall AFB FL	Jun 90	TBD	TBD
Slidell LA	Sep 88	Complete	Complete
Ellington ANGB TX	Jan 90	Complete	Complete



# SOUTHEAST AIR DEFENSE SECTOR



<u>Location</u>	<u>Est. Design Cost (000)</u>	<u>Est. Const Cost (000)</u>
NAS Oceana VA	4.6	32.6
Ft Fisher NC	Included In Initial Site Design	
Jedburg SC	8.0	55.9
Whitehouse FL	4.0	53.3
Patrick AFB FL	1.1	14.6
Richmond Hts FL	4.1	53.7
NAS Key West FL	6.3	41.9
Ft Lonesome FL	2.0	13.0
Cross City FL	1.3	8.4
Tyndall AFB FL	4.5	30.3
Slidell LA	5.5	72.6
Ellington ANGB TX	<u>5.9</u>	<u>39.7</u>
<b>TOTAL</b>	<b>47.3</b>	<b>416.0</b>



# NORTHWEST AIR DEFENSE SECTOR OPERATING LOCATIONS



Location	Security Survey	Design Start	Const Start
Crescent City, CA	Jan 90	Complete	Complete
Salem, OR	Apr 90	Complete	Complete
Makah, WA	May 88	Complete	Complete

# NORTHWEST AIR DEFENSE SECTOR OPERATING LOCATIONS



Location	Est. Design Cost (000)	Est. Const Cost (000)
----------	------------------------	-----------------------

Crescent City, CA	Existing facility satisfied requirements	
-------------------	--	--

Salem, OR	Existing Facility satisfied requirements w/ minor alterations	
-----------	---	--

Makah, WA	1.0	8.0
	Included in conversion project	

**SOUTHWEST AIR DEFENSE SECTOR**

SECURITY SURVEY:      DESIGN START:      CONST. START:

LOCATION:      Oilton, TX      26 JANUARY 1988      TBD      TBD

Mt Laguna, CA      COMPLETED      COMPLETED      TBD

Paso Robles, CA      COMPLETED      TBD      TBD

Mill Valley, CA      COMPLETED      TBD      TBD

**NOTE:** Immediate physical security measures have already been implemented at Mt Laguna, Paso Robles, and Mill Valley. COMSEC has already been turned over to the FAA at the above four locations.

SOUTHWEST AIR DEFENSE SECTOR

<u>LOCATION:</u>	<u>EST. DESIGN COST (000):</u>	<u>EST. CONST. COST (000):</u>
Oilton, TX	TBD	TBD
Mt Laguna, CA	9.9	131.9
Paso Robles, CA	TBD	TBD
Mill Valley, CA	TBD	TBD

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6430.2 CHG 32  
Attachment 74

FARR Briefing

Attachment 15

# **ARSR-4 PROGRAM**

**o SITE RELOCATIONS**

**o SCHEDULE**

ARSR-4 SITE RELOCATIONS

- o NCP 12209 APPROVED BY CCB 2 MAY 1990
- oo \$47.6M ADDED TO FY 1992 FUNDING PROFILE
- oo NAS-SS-1000, NAS SYSTEM SPECIFICATION REVISED
- o JRPG REQUESTED REVISION TO SITE INSTALLATION SEQUENCE DUE TO CHANGING PRIORITIES AND MISSION REQUIREMENTS
- o JRPG RADAR SUB-GROUP VALIDATED CHANGES ON 25 OCT 90
- o FORMAL JRPG RECOMMENDATION FOR CHANGES TO ARSR-4 SITE INSTALLATION SEQUENCE SENT TO JPO ON 17 DEC 90

**ARSR-4 SITE RELOCATIONS**

- o **JPO PREPARED PROCUREMENT REQUEST REFLECTING  
NEW SEQUENCE AND FORWARDED IT TO FAA CONTRACTS  
IN JAN 91**
  
- o **CONTRACT MODIFICATION EXPECTED BY 30 JUN 91**

7/8/91

NEW Destination 02/04/91 System  
DEL ----- Delivery  
# ARSR-4

OLD  
DEL  
#

6430.2 CHG 32  
Attachment 74

1	RAINBOW RIDGE, CA	02/22/92	8
2	OKLAHOMA CITY, OK	02/22/92	2
3	MAKAH, WA	06/22/92	3
4	KEY WEST, FL	07/22/92	17
5	LAKE CHARLES, LA	08/21/92	5
6	GUANTANAMO BAY, CU	09/22/92	19
7	PASO ROBLES, CA	10/22/92	7
8	OILTON, TX	10/22/92	42
9	JEDBURG, SC	11/23/92	9
10	MT SANTA ROSA, GU	12/22/92	10
11	RICHMOND, FL	12/22/92	24
12	SALEM, OR	01/22/93	12
13	GIBBSBORO, NJ	02/22/93	13
14	MT KAALA, HI	02/22/93	27
15	ROCKSPRINGS, TX	03/22/93	28
16	CROSS CITY, FL	04/22/93	16
17	OCEANA, VA	04/22/93	4
18	SLIDELL, LA	04/21/93	18
19	FT FISHER, NC	05/21/93	20
20	MT THIRST, CA	05/22/93	6
21	BUCKS HARBOR, ME	06/22/93	21
22	MORALES, TX	06/22/93	14
23	AJO, AZ	07/23/93	23
24	TYNDALL, FL	08/23/93	11
25	NASHWALK, MN	09/22/93	25
26	LAKESIDE, MT	09/22/93	26
27	UTICA, NY	10/22/93	34
28	WATFORD CITY, ND	10/22/93	15
29	WHITEHOUSE, FL	11/22/93	29
30	RIVERHEAD, NY	12/22/93	30
31	KING MOUNTAIN, TX	12/21/93	39
32	EMPIRE, MI	01/22/94	32
33	FINLEY, ND	02/22/94	33
34	EAGLE PEAK, TX	02/22/94	22
35	MICA PEAK, WA	03/22/94	35
36	MT LAGUNA, CA	04/22/94	36
37	MALMSTROM, MT	04/23/94	37
38	PATRICK, FL	05/22/94	38
39	DEMING, NM	06/22/94	31
40	FT LONESOME, FL	06/22/94	40
41	NORTH TRURO, MA	07/22/94	41
42	MILL VALLEY, CA	08/22/94	1
43	KOKEE, HI	/ /	43

PROPOSED

PROPOSED

**ARSR-4 SCHEDULE**

**NOV 91 DELIVERY OF FIRST SYSTEM BEGINS**

**FEB 92 DELIVERY OF FIRST SYSTEM COMPLETED**

**APR 92 FIRST SYSTEM INSTALLED, ON-SITE TESTING  
STARTS**

**JUN 92 ON-SITE TESTING COMPLETED**

**NOV 92 SHAKEDOWN TESTING COMPLETED**

**DEC 92 DEPLOYMENT DECISION**

**JAN 93 FIRST SYSTEM COMMISSIONED**

# **ARSR-4 First Site Selection Considerations**

**Paul Long**

**February 12, 1991**

## **Problem**

---

- **The ARSR-4 has stringent requirements for the performance of the system in the presence of clutter. To test the system to these requirements the first site will have to be carefully chosen.**
- **The original first site, Mill Valley, has become unavailable for first site testing due to political reasons.**
- **At the present time there are only two sites that remain under active consideration: Rainbow Ridge and Mt Laguna.**

# Test Requirements

---

- **Critical**
  - Detection of the 0.1 square meter target in sea state 5 at 90 miles
  - Detection of the 2.2 square meter target over mountains at 180 miles
  
- **Desirable**
  - High Beacon Count
  - Anomalous Propagation (AP)

## **Rainbow Ridge**

---

- **Advantages**
  - **Mountain Clutter visible**
  - **AP present occasionally**
- **Disadvantages**
  - **no sea clutter at 90 miles (horizon limited)**
  - **Low beacon count**
  - **Isolated site**
  - **New site, may not be completely equipped in time (Beacon, Comm)**

## **Mt Laguna**

---

- **Advantages**
  - **Sea clutter to 90 miles**
  - **Mountain clutter at 140 miles**
  - **Beacon counts exceeding 700 in peak periods**
  - **Existing site, all equipment available**
  - **Overlooks valley to test lookdown beam**
  - **Convenient to lodging and transportation**
  
- **Disadvantages**

## **Mt Laguna (Concluded)**

---

- **May be too much AP**
- **May lack weather clutter**
- **Summer storms over Mexico ?**

## **Predicted Performance in Sea Clutter**

---

- **Clutter cross section for Rainbow Ridge at 10 miles and Mt Laguna at 45 miles is approximately equal**
  
- **Westinghouse predicts that detection of .1 meter squared target at 90 miles in sea state five has 0.25 db margin**
  - **MITRE model indicates this is optimistic**

## **AP at Mt Laguna**

---

- **Summer: Elevated duct almost every morning**
  - **Appears to dissipate during the PM**
  - **Does it reach up to Focal Point of Radar?**
  
- **Winter : early morning ducts common**
  
- **ARSR-3 has Salton Sea area detection Problems**
  - **Under the coverage Pattern?**
  - **Insufficient improvement factor?**

7/8/91

6430.2 CHG 32  
Attachment 74

Radar Site Parameter Settings

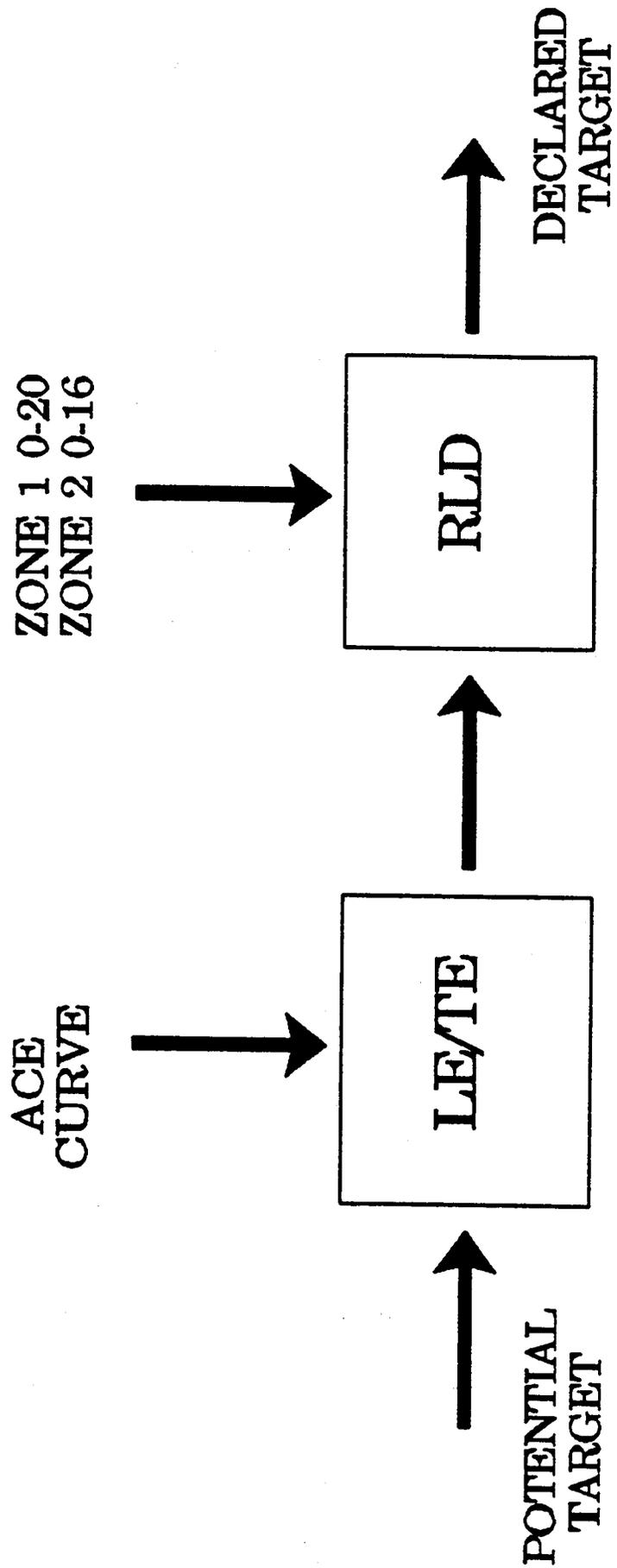
Attachment 16

# SITE SETTINGS

- SITE PARAMETERS SET FORTH IN JOINT BASELINE EVALUATION REPORTS (MIN/MAX VALUES)
  - COORDINATION REQUIREMENTS FOR SETTING CHANGES ARE CONTAINED IN JRPG MINUTES #72 AND #73
  - FAA HAS FINAL CALL ON CHANGES DURING NON-EMERGENCY CONDITIONS
  - USAF DIRECTS CHANGES BASED ON MISSION REQUIREMENTS DURING ACTIVE AIR DEFENSE AND OPLAN 3116/3199 MISSIONS
- FAA CHANGING SETTINGS WITHOUT COORDINATION (PRIMARYLY ACE/RLD) <sup>v2</sup>
  - RANDOM SAMPLING OF SETTINGS (DEC/JAN)
    - 80% INCORRECT
    - NO COORDINATION EVIDENT
- IMPAIRS ACTIVE AIR DEFENSE AND COUNTERNARCOTICS MISSIONS

# SITE SETTINGS (CONT.)

- USAF INITIATIVES
  - INSTALL AUTOMATED MONITORING SYSTEM AT SOCC
  - PC LOCATED AT DQM POSITION
  - INITIATE EXTENSIVE TRAINING PROGRAM AT SOCC
  
- USAF REQUESTS
  - HQ FAA RE-EMPHASIZE COORDINATION REQUIREMENTS WITH REGIONS <sup>✓ 3</sup>
  - ENSURE SITE TECHNICIANS ARE AWARE OF SITE BASELINE PARAMETERS <sup>ex. log sheet</sup>
  - ENSURE SYSTEMS ENGINEER AWARE OF REQUIREMENT TO CALL SOCC'S WITH ALL PARAMETER CHANGES <sup>ex. log</sup>



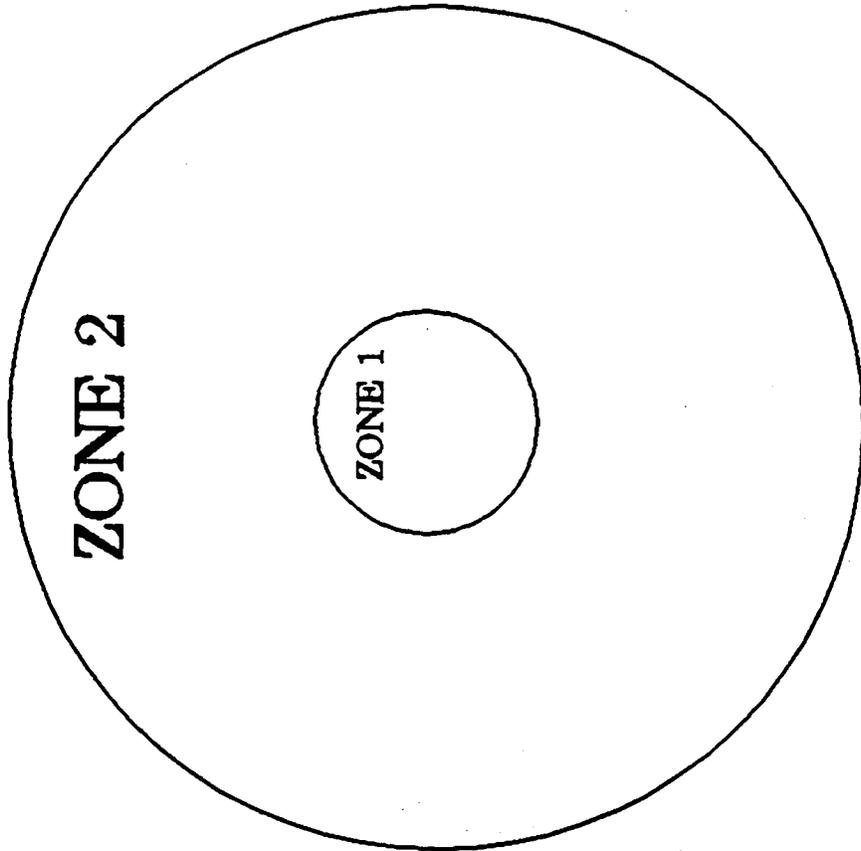
100 AIRCRAFT	RADAR	ACE 1	ACE 2	ACE 3	RLD 12345
	99	99	99	99	5
	70	60	45	30	2-5

**ADJUSTABLE**

**32 NMI  
48 NMI  
64 NMI**

**ZONE 1:**

**RL = 0-20 ACPS**



**END ZONE 1 TO  
FULL RANGE**

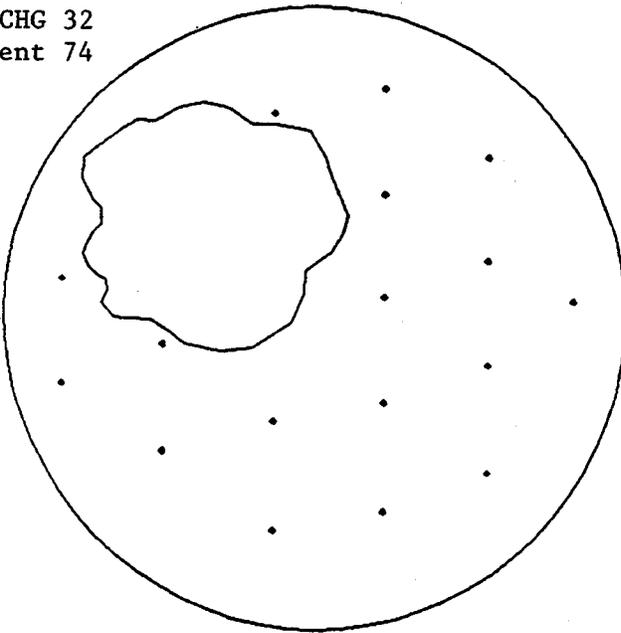
**ZONE 2:**

**RL = 0-16 ACPS**

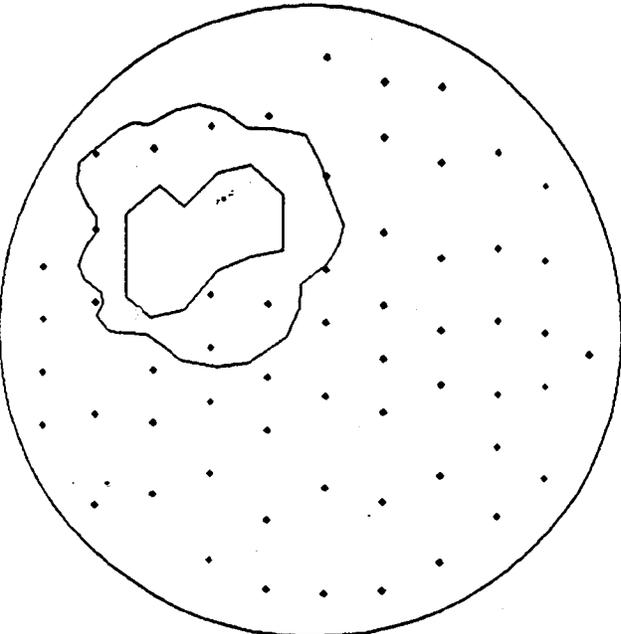
7/8/91



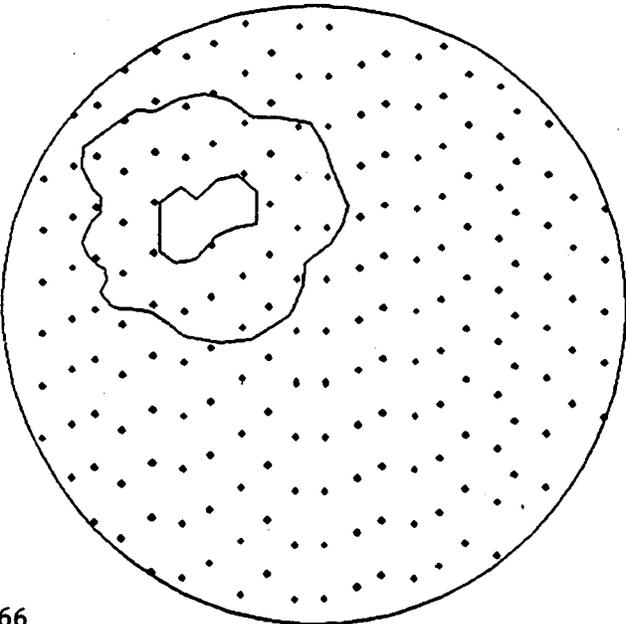
ACE 3



ACE 2



ACE 1



99



30



99



45



99



60

7/8/91

6430.2 CHG 32  
Attachment 74

NAT-614 Staffing Requirements

Attachment 17

**INTEGRATED WORK FORCE (IWF) STAFFING  
FOR JSS SITES  
NAT-614**

# OVERVIEW

- BACKGROUND OF INTEGRATED WORK FORCE
- CONCEPT
- METHODOLOGY
- TESTING
- IMPLEMENTATION
- ADJUSTMENTS
- CONCERNS

# **BACKGROUND**

- O FORMULATION OF JSS EARLY 70'S**
  - O TO SUPPORT USAF MISSION EQUIPMENT/REQUIREMENTS, OMB TRANSFERRED 176 MANPOWER SLOTS FROM DOD TO FAA. THESE CONSISTED OF 155 SLOTS (GS-11) FOR MAINTENANCE OF USAF EQUIPMENT AT 31 SITES, 3 SLOTS AT FAA ACADEMY, AND 18 SLOTS PROVIDED FOR SUPPORT (I.E., F&E, ADMINISTRATIVE)**

# **TWO-FOLD WORK FORCE**

- O GS-12'S DEDICATED TO FAA MISSION/REQUIREMENTS**
- O GS-11'S DEDICATED TO USAF MISSION/REQUIREMENTS**
- O WORK FORCE UNDER SUPERVISION OF ON-SITE SECTOR  
FIELD OFFICE (SFO)**

## **IWF CONCEPT**

- DECLINING EMPLOYMENT LEVELS AND GRADE DISPARITIES BETWEEN WORK FORCES LED TO THE**

### **IWF CONCEPT**

- A SINGLE COMPREHENSIVE MAINTENANCE UNIT CAPABLE OF PROVIDING MISSION REQUIREMENTS UP TO 24 HOURS A DAY, SEVEN DAYS A WEEK. MAINTENANCE COVERAGE BY PERSONNEL FULLY TRAINED AND QUALIFIED TO PERFORM MAINTENANCE ON ALL EQUIPMENT**

# IWF METHODOLOGY

- DETERMINE STAFFING LEVELS AT EACH SITE, STUDY ALL TASKS PERFORMED AT SITE
  - MAINTENANCE
  - TRAINING
  - ADMINISTRATION
  - WATCH STANDING
  - SUPERVISION
  - LEAVE/HOLIDAYS
  - PERSONAL TIME
  - OTHER TASKS

# **IWF TESTING**

- CONDUCTED AT TEN SITES WITH FAVORABLE RESULTS**
- STAFFING LEVELS DETERMINED FOR ALL SITES**

ATTACHMENT NO. 3  
AMENDMENT NO. 2  
NAT-614

## JSS IWF STAFFING

<u>REG CC</u>	<u>JSS SITES</u>		<u>IWF STAFF INCLUDING</u>	
	<u>FAA</u>	<u>(USAF)</u>	<u>IDENT</u>	<u>SUPERVISOR</u>
EA8242	RIVERHEAD	(SUFFOLK)	QVH	8
EA8434	REMSEN	(UTICA)	QXU	9
EA842	OCEANA		NTU	8
GL861H	EMPIRE		QJAA	8
GL867L	NASHWAUK		QJD	8
GL8686	FINLEY		QFI	8
GL8689	WATFORD CITY		QWA	8
NE8102	BUCKS HARBOR		QYA	9
NE8128	NORTH TRURO		QEA	8
NM830K	LAKESIDE	(KALISPELL)	QLS	8
NM8340	MAKAH		QKW	6
NM830R	MALMSTROM AFB		GFA	8
NM832F	SALEM		SLE	8
NM834T	MICA PEAK		QMI	8
S0864R	FT FISHER		QGV	7
S0846N	JEDBURG		QRJ	9
S0854J	CROSS CITY		CTY	9
S0854P	TYNDALL AFB		PAM	9
S0854R	WHITEHOUSE		NEN	9
S0862K	KEY WEST		NQX	9
S0862L	MIAMI	(RICHMOND HTS)	MIA	9
S0868J	FT LONESOME		QJT	9
S0868M	PATRICK AFB		COF	9
SW828W	EL PASO		ELP	8
SW828Y	SILVER CITY		SVC	9
SW8287	ODESSA		QXS	8
SW8369	HOUSTON	(ELLINGTON)	HOU	8
SW848W	SLIDELL		NEW	8
SW8588	OILTON		QZA	9
WP8458	CRESCENT CITY		CEC	8
WP8453	PASO ROBLES		PRB	9
WP8456	MILL VALLEY		QMV	8
WP8507	PHOENIX	(HUMBOLDT MT)	PHX	9
WP8621	MT LAGUNA		QRW	9
WP8527	SAN PEDRO		QLA	8

DATA TIE & GATR SITES

EA8288	DANSVILLE		DSV	6
EA8428	THE PLAINS		QPL	6
GL861Q	CANTON	(DETROIT)	QDT	6
NM832L	KLAMATH FALLS	(KENO)	LMT	7
S0850H	CITRONELLE	(GRAND BAY)	QRB	6
SW818W	SONORA		SOA	6

# **IWF IMPLEMENTATION**

- o FAA REGIONAL AIRWAY FACILITY NOTIFIED ASM-230  
AND ASM-103 OF THE DATE EACH SITE MET COVERAGE/  
TRAINING REQUIREMENTS.**
- o ASM-103 FORWARDED NOTIFICATIONS TO  
HQ TAC/XPP IMPLEMENTING IWF**

# **IWF STAFFING LEVEL ADJUSTMENTS**

- NAT-614 PROVISIONS**
  - ARTICLE X.2.C: IN THE EVENT OF TECHNOLOGICAL IMPROVEMENTS TO ON-SITE EQUIPMENT AND/OR CHANGES IN EQUIPMENT BY EITHER AGENCY, ASM-103 IN COORDINATION WITH HQ TAC/XPP, WILL ADJUST THE STAFFING LEVELS.**
  - FAA SHALL NOT REDUCE STAFFING BELOW THAT REQUIRED TO PROVIDE/MAINTAIN 24 HOURS A DAY, SEVEN DAYS PER WEEK COVERAGE EXCEPT AT THOSE SITES HAVING RMM CAPABILITY AND AN AGREEMENT HAS BEEN RECEIVED FROM USAF FOR LESS THAN 24 HOUR STAFFING**

## **ADJUSTMENTS (CONTINUED)**

- O ARTICLE VIII.A: ON EQUIPMENT WHICH THE FAA HAS AGREED TO MAINTAIN, FAA WILL PROVIDE, IN ACCORDANCE WITH FAA POLICY/PROCEDURES, A CAPABILITY TO SUPPORT USAF MISSION REQUIREMENTS UP TO 24 HOURS A DAY, SEVEN DAYS PER WEEK. AT JOINT USE SITES HAVING RMM CAPABILITY, FAA MAY ELECT TO PROVIDE LESS THAN 24 HOURS STAFFING**

# **ADJUSTMENTS (CONTINUED)**

- O ARTICLE XIII.6.A: FAA SHALL PROVIDE SUFFICIENT NUMBERS OF TRAINED/QUALIFIED MAINTENANCE PERSONNEL TO SUPPORT USAF MISSION REQUIREMENTS UP TO 24 HOURS A DAY, SEVEN DAYS PER WEEK. AT SITES HAVING RMM CAPABILITY FAA MAY (AFTER COORDINATION WITH USAF) ELECT TO PROVIDE LESS THAN 24 HOURS MAINTENANCE STAFFING**

# **USAF CONCERNS**

- MANNING LESS THAN THE IWF LEVELS**
- TECHNICIANS NOT TRAINED**
- LACK OF FORMAL COORDINATION PRIOR TO STAFFING ADJUSTMENTS**
- INABILITY OF REGION TO AUGMENT SITE'S WORK FORCE**
- SECTOR FIELD OFFICE (SFO) MANAGEMENT SPLIT BETWEEN FACILITIES**
- FAA'S CAPABILITY TO PROVIDE 24-HOUR PER DAY MANNING OF JOINT USE SITES TO MEET REAL WORLD REQUIREMENTS**

7/8/91

6430.2 CHG 32  
Attachment 74

Safety Inspections

Attachment 18

## Safety Inspections

### Provisions for Conducting Safety and Health Inspections at Joint-Use Air Route Surveillance Radar (ARSR) Facilities

The following provisions govern the safety and health inspections of ARSR facilities where joint FAA and USAF operations are conducted.

1. The criteria for inspecting facilities shall include the safety and health standards for general industry contained in 29 CFR 1910 established by the Occupational Safety and Health Administration (OSHA), and the National Fire Codes established by the National Fire Protection Association (NFPA).

2. Inspections shall be conducted by FAA inspection personnel. Annual inspections shall be performed by FAA safety and health professional personnel (e.g., GS-018 safety specialists; GS-803, safety engineers; or GS-690, industrial hygienists).

3. Corrective action to abate any hazards identified during facility inspections shall be accomplished by the FAA. Any corrective actions involving USAF equipment, etc., shall be accomplished on a reimbursable basis.

4. Damages to USAF equipment, facilities, or materials that exceed \$2,000 replace/repair cost must be reported to the appropriate Air Defense Sector Safety office.

5. Where a disagreement may arise regarding safety and health inspections which cannot be resolved at the facility level, the matter shall be forwarded through normal organizational channels for resolution.

7/8/91

6430.2 CHG 32  
Attachment 74

Beacon RADHAZ Report

Attachment 19

7/8/91

DEPARTMENT OF THE AIR FORCE  
1845th Electronic Engineering Group (AFCC)  
Tinker Air Force Base, Oklahoma 73145-6348

REPLY TO  
ATTN OF: EILC

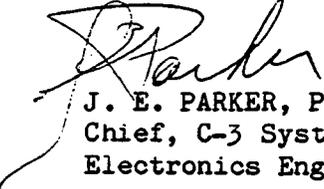
16 Jan 90

SUBJECT: Transmittal of EMC/RADHAZ Study on Beacon Systems

TO: See Distribution List

1. The attached AFCC 485EIG/EIUS-90-2 study is forwarded for your information and use as deemed necessary. This is in response to an action item given to this office by the JRPG.

2. Request FAA/ASM-103 make internal distribution, as necessary, within FAA.

  
J. E. PARKER, P.E.  
Chief, C-3 Systems Engineering Section  
Electronics Engineering Branch

1 Atch  
485EIG/EIUS-90-2 Study

7/8/91

6430.2 CHG 32  
Attachment 74

DISTRIBUTION LIST

HQ TAC/XPPF  
Langley AFB VA 23665-5001

1AF/LGK  
Langley AFB VA 23665-5009

HQ FAA/ASM-103/APS-320  
800 Independence Ave., SW.  
Washington DC 20591-5000

6010 AERODG/DOG  
Wheeler AFB HI 96854-5001

NAVELEXCEN (ATTN: Walt Altman)  
San Diego CA 92138

24 AD/LG  
Griffiss AFB NY 13441-5000

154 COMPG/MAI  
Hickam AFB HI 96583-5000

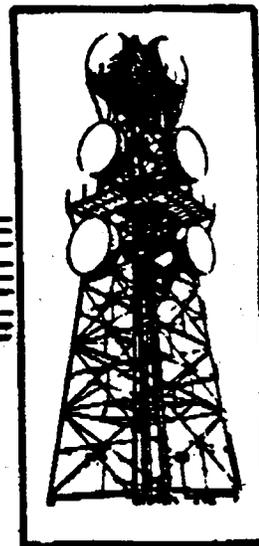
25 AD/LG  
McChord AFB WA 98438-6003

SE AD Sector/LGK  
Tyndall AFB FL 32403-5000

NE AD Sector/LGK  
Griffiss AFB NY 13441-5000

NW AD Sector/LGK  
McChord AFB WA 98438-6003

SW AD Sector/LGK  
March AFB CA 92518-5000



# 485 EIG TECHNICAL REPORT

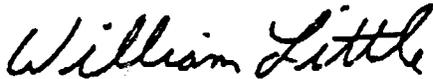
AIR FORCE COMMUNICATIONS COMMAND  
485 ENGINEERING INSTALLATION GROUP  
SPECIAL ENGINEERING SECTION  
GRIFFISS AIR FORCE BASE, NEW YORK 13441



**ABSTRACT**

This technical report examines the electromagnetic radiation hazards (EMRH) associated with using beacon only during the installation phase of the FARR Program. The study indicates that EMRH does exist near the transmitting beacon antennas. However, installations may proceed with the beacon in use as long as the recommendations in paragraph 5 are adhered to. Recommendations to Project Engineers for the FARR Program are included in paragraphs 5.2 - 5.4.

EMRH distances for the AN/UPX-14 in the High and Low Power modes and the ATCBI-5 were calculated using worst case parameters from the equipment characteristics listed in appendix 1. Safe distances for Restricted Areas, Unrestricted Areas, fuels, and exposed EED's are outlined in paragraph 4.



WILLIAM LITTLE, 1st Lt, USAF  
Electronics Engineer



GLEN E. BAHR  
Chief, Special Engineering Section

7/8/91

**DISTRIBUTION C: DISTRIBUTION AUTHORIZED TO U.S. GOVERNMENT AGENCIES AND THEIR CONTRACTORS; FOR ADMINISTRATIVE OR OPERATIONAL USE, 5 Jan 90. OTHER REQUESTS FOR THIS DOCUMENT WILL BE REFERRED TO 485 EIG/EIUS.**

**ELECTROMAGNETIC RADIATION HAZARD STUDY FOR BEACON ONLY  
USE DURING THE FARR PROGRAM INSTALLATION**

**AIR FORCE COMMUNICATIONS COMMAND  
485TH ENGINEERING INSTALLATION GROUP  
SPECIAL ENGINEERING SECTION  
GRIPPISS AIR FORCE BASE, NEW YORK 13441-6348**

**TABLE OF CONTENTS**

**ABSTRACT** .....

**1.0 INTRODUCTION** .....

**1.1 PURPOSE** .....

**1.2 AUTHORITY** .....

**1.3 REFERENCES** .....

**1.4 KEY WORD FOR COMPUTER INDEXING** .....

**2.0 BACKGROUND** .....

**3.0 PROCEDURES** .....

**4.0 RESULTS AND CONCLUSIONS** .....

**5.0 RECOMMENDATIONS** .....

**APPENDIX** .....

**DISTRIBUTION LIST**

**1.0 INTRODUCTION:**

**1.1 PURPOSE:** Determine the Electromagnetic Radiation Hazard associated with using beacon only (ATCBI-5 or UPX-14) during the installation phase of the FARR program.

**1.2 AUTHORITY:** 1845 EEG/EILC Ltr, 9 Nov 89, Subj: Radiation Hazard for Beacon Use During FARR Installation. WIN: 3019E080.

**1.3 REFERENCES:**

**1.3.1** TO 31E-10-4 Electromagnetic Radiation Hazards, 15 Oct 81.

**1.3.2** APOSH STD 161-9 Exposure to Radiofrequency Radiation, 12 Feb 87.

**1.3.3** AF REGULATION 127-100 Explosives Safety Standards, 20 May 83.

**1.3.4** TO 31P4-2UPX14-2, Interrogator Set AN/UPX-14, 15 Sep 63.

**1.3.5** ECAC PO-219 (S) Equipment Characteristics File for Transmitters, Receivers, and Antennas (U), 3 Mar 89.

**1.4 KEY WORDS FOR COMPUTER INDEXING:** FARR Program, Beacon, ATCBI-5, UPX-14.

**2.0 BACKGROUND:**

**2.1** 1845 EEG/EILC tasked this office to perform an Electromagnetic Radiation Hazard (EMRH) study in support of the FARR Program.

**2.2** The above tasking requests an EMRH study to determine the feasibility of using beacon only during FARR program installations.

**3.0 PROCEDURES:**

**3.1** Equipment Characteristics from References 1.3.4 and 1.3.5, as noted in appendix 1, were used to calculate the theoretical far field EMRH for personnel, fuels, and Electroexplosive Devices (EED's) per references 1.3.1, 1.3.2, and 1.3.3.

## APPENDIX I - EQUIPMENT CHARACTERISTICS

## Interrogator Set AN/UPX-14

Freq Range (MHz)-----1010 to 1050  
 Peak Power:  
     Low Power (kW)-----1.5 to 2.25  
     High Power (kW)-----9.0 to 11.00  
 Pulses per Second (pps)-----450 Max  
 0.8  $\mu$ sec Transmission:  
     Pulse Duration ( $\mu$ sec)-----0.8  $\pm$  0.1  
     Pulse Spacing ( $\mu$ sec)-----3, 5, or 8  $\pm$  0.1  
 0.5  $\mu$ sec Transmission:  
     Pulse Duration ( $\mu$ sec)-----0.43 to 0.58  
     Pulse Spacing ( $\mu$ sec)-----2  $\pm$  0.05

## Interrogator Set ATCBI-5 \*

Freq Range (MHz)-----1030 to 1090  
 Peak Power (kW)-----3.5  
 Pulse Width ( $\mu$ sec)-----0.8  
 Pulses per Second (pps)-----450 Max

Antennas:	FREQ (MHz)	Gain (dBi)	Polarisation	Pattern
* AT-914/UPX-14	1010-1110	22	Vertical	Directional
* ATCBI-5 Omnidirectional Collinear	1030-1090	4	Vertical	
* ATCBI-5 Phased Array	1030-1090	21	Vertical	Directional

\* Technical information for the ATCBI-5 interrogator and all antennas listed were obtained from Reference 1.3.5.



Note - When the far field analysis predicts minimal hazard areas, the more rigorous near field analysis, (which always has a smaller hazard area than the far field analysis), is not used.

3.2 The values selected represent the worst-case hazard from the operation of both the ATCBI-5 and the AN/UPX-14.

3.3 For the AN/UPX-14, Freq 1010 MHz, antenna gain 22 dBi, 0.9  $\mu$ sec pulse width, and 450 Max pps for both High Power Mode (11 kW Peak) and Low Power Mode (2.25 kW Peak) were used. Additionally, Freq 1010 MHz, antenna gain 22 dBi, 3.2 kW Peak Power, and 450 Max pps were used for 0.5  $\mu$ sec pulse width mode.

3.4 For the ATCBI-5, Freq 1030, antenna gain 21 dBi, Power 3.5 kW, 0.8  $\mu$ sec pulse width, and 450 Max pps were used.

#### 4.0 RESULTS AND CONCLUSIONS:

Note - Minimum safe distances are calculated for two areas, Restricted Area and Unrestricted Area. Per Reference 1.3.2:

Restricted Area. Any area where access is controlled for the purpose of excluding the entry of persons of less than 140 centimeters (55 inches) in stature. Includes those areas from which members of the general public are normally excluded, such as industrial work areas, flight lines, communications compounds, etc.

Unrestricted Area. Any area where access is uncontrolled. Includes typical public areas of the base, base housing, recreational areas, etc.

4.1 The minimum safe distance from the AN/UPX-14 operating at High Power is 3 feet in a Restricted Area and 5 feet in an Unrestricted Area. Minimum safe distance for fuels is 6 feet and for exposed EED's, 12 feet.

4.2 The minimum safe distance from the AN/UPX-14 operating at Low Power is 2 feet in the Restricted and Unrestricted area. Minimum safe distance for

fuels is 3 feet and for exposed EED's, 6 feet.

4.3 The minimum safe distance from the AN/UPX-14 operating in the 0.5 usec Mode at 3.2 kW Power is 2 feet in the Restricted and Unrestricted Areas. Minimum safe distance for fuels is 3 feet and for exposed EED's, 5 feet.

4.4 The minimum safe distance from the ATCBI-5 operating at Peak Power of 3.5 kW is 2 feet in the Restricted and Unrestricted Areas. Minimum safe distance for fuels is 3 feet and for exposed EED's, 6 feet.

#### 5.0 RECOMMENDATIONS:

5.1 Operation of beacon only is acceptable for installation personnel during the FARR Program providing the minimum safe distances in paragraph 4 are adhered to.

5.2 Project Engineers should determine which beacon from appendix I-1 will be in use during the installation phase. The engineer should then include an EMRH statement with the corresponding minimum safe distance for Restricted Area listed above in each FARR Program project package where beacons will be in use.

5.3 Project Engineers will include the following statement in the Project Package: "Warning Radiation Hazard - Installation personnel will not work closer than the specified minimum safe distance of the beacon antenna while it is transmitting. If access within this distance is required, the beacon will be turned off and "Warning Do Not Energize" signs posted on the transmitter while work is being accomplished."

5.4 Project Engineer should include the EMRH information for Restricted/Unrestricted Areas, fuels, and EED's in the Project PSA and task the base to post radiation hazard signs as required per para 3.c of ref 1.3.2.

7/8/91

6430.2 CHG 32  
Attachment 74

Joint Use Site Configurations

Attachment 20

**Joint Use Site Configurations  
(As of 1 Feb 91)**

**Radar Sites with Mode 4 and Radios**

Oilton	Guam, Santa Rosa	Murphy Dome
Ft Fisher	North Truro	Whitehouse
Riverhead/Suffolk	Patrick	Richmond/Miami
Bucks Harbor	Slidell	Makah
Paso Robles/Black Mtn	Mt Laguna	Mill Valley
Jedburg	Cross City	Houston/Ellington
Key West	Crescent City/Klamath Falls	Salem
Fort Lonesome	*Tyndall/Panama City	**Oceana

**Radar Sites with Radios**

Andrews/Odessa	El Paso	Silver City
Lakeside/Kalispell	Keno/Klamath Falls	Mica Peak/Spokane
Finley	Malmstrom/Great Falls	Watford City
Remsen/Utica	Nashwauk	San Pedro

**Radar Sites with HFR, Mode 4 and Radios**

Mt Kaala (2 HFR)

**Joint Use Data Tie Sites**

The Plains/Wash DC	12 USAF Alaska Sites	Mt Kokee
Citronelle/Grand Bay	Dansville	Sonora
Canton/Detroit	Kenai	Empire
Phoenix/Humboldt Mtn		

\*Radios Maintained by USAF

\*\*Radios Maintained by USN

7/8/91

6430.2 CHG 32  
Attachment 74

Survey of Data Ties/Services Provided at Joint Use Sites

Attachment 21

FAA & USAF SITE CONFIGURATIONS (CONUS)

LOCATION	MILITARY SINGLE /MULTI CHANNEL UHF RADIOS	OTHER RADIOS	FAA	RADAR DATA TIES	OTHER
1 Bucks Harbor	12/1		*Boston	NE AD Sector	
2 Canton/Detroit	0/0		*Cleveland	Canadian ROCC	
3 Citronelle (Grand Bay)	0/0		*Houston Atlanta Memphis Jacksonville	NE AD Sector	
4 Crescent City	12/1		*Oakland Seattle	SE AD Sector	
5 Cross City	12/1	1(UHF-USCS)	*Jacksonville Miami	NW/SW AD Sector	USMC
6 Dansville	0/0		*Cleveland Boston	SE AD Sector	
7 El Paso	6/1	1(UHF-USCS)	*Albuquerque Chicago	SW AD Sector	USCS
8 Empire	0/0		*Minneapolis	NE AD Sector	
9 Finley	10/1		*Minneapolis	NW AD Sector	
10 Ft Fisher	12/1	1(UHF-USCS) 2 (USN)	*Washington	SE AD Sector	Oceana FACSFAC
11 Ft Lonesome	12/1	1(UHF-USCS)	*Miami	SE AD Sector	CARIBROC
12 Houston (Ellington)	10/1	1(UHF-USCS)	*Houston	SE AD Sector	
13 Jeddburg	12/1	1(UHF-USCS)	*Jacksonville	SE AD Sector	Jacksonville FACSFAC
14 Key West	12/1	1(UHF-USCS)	*Miami	SE AD Sector	CARIBROC
15 Klamath Falls (Kenel)	4/1		*Seattle		NAVY IARPOH
16 Lakeside (Kalispell)	10/1		*Salt Lake City	NW AD Sector	

FORM 7000 SEP 77 3136

GENERAL PURPOSE 000-1177

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FAA & USAF SITE CONFIGURATIONS (CONUS)						
LOCATION	MILITARY SINGLE /MULTI CHANNEL UHF RADIOS	OTHER RADIOS	FAA	RADAR DATA TIES	AD/ROCC	OTHER
17	Makah 12/2 * (NW ADS) 2/0 (USN) 2/0 (CM ROCC) *ATCC/Guard & multi-channels shared by 3 agencies	2 (VHF-USN)	*Seattle	NW AD Sector Canadian ROCC	NW AD Sector	Midway Isl FACSFC
18	Malmstrom 10/1		*Salt Lake City	NW AD Sector	NW AD Sector	
19	Miami (Richmond) 12/1	1 (UHF-USCS)	*Miami	SE AD Sector	SE AD Sector	CARTBROC
20	Mica Peak 8/1		*Seattle	NW AD Sector	NW AD Sector	Midway Isl FACSFC Vancouver, Canada ARTCC
21	Mill Valley 12/1		*Oakland	SW AD Sector	SW AD Sector	MSMC
22	Mt Laguna 12/1	1 (UHF-USCS)	*Los Angeles	SW AD Sector	SW AD Sector	USCS San Diego FACSFC
23	Washauk 6/1		*Minneapolis	NE/NW AD Sector	NE/NW AD Sector	
24	North Iruro 12/1	2 (VHF)	*Boston New York	WE AD Sector	WE AD Sector	Oceana FACSFC
25	Oceana 12/2		*Washington *Ft Worth	SE AD Sector	SE AD Sector	Oceana FACSFC
26	Odessa 6/1	1 (UHF-USCS)	Albuquerque	SW AD Sector	SW AD Sector	IJSCS
27	Orillon 6/1	1 (UHF-USCS)	*Houston	SE AD Sector	SE AD Sector	IJSCS
28	Paso Robles 12/1	1 (UHF-USCS)	*Los Angeles Oakland	SW AD Sector	SW AD Sector	MSMC IJSCS R2508 System Edwards AFB
29	Patrick 12/1	1 (UHF-USCS)	*Miami Jacksonville	SE AD Sector	SE AD Sector	Jacksonville FACSFC

(Continued on Page 3)

FORM

AF 8077 3126

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GENERAL PURPOSE (NEW) 11 87

U.S. GOVERNMENT PRINTING OFFICE: 1981-0000000000

FAA & USAF SITE CONFIGURATIONS (CONUS)

LOCATION	MILITARY SINGLE /MULTI CHANNEL UHF RADIOS	OTHER RADIOS	FAA	AD/ROCC	OTHER
30 Phoenix (Humboldt Mtn)	0/0	2 (UHF-FAA) 1 (VHF-FAA)	*Albuquerque Los Angeles	SW AD Sector	Drug Enforcement Tucson AZ (USCS) USA Ft Huachuca AZ/Nellis AFB NV
31 The Plains	0/0		*Washington New York	NE AD Sector	
32 Rensen (Utica)	6/1		Tech Center		
33 Riverhead (Suffolk)	12/1(TAC) 4/1(Navy)	2/1(VHF-Navy)	*Boston Cleveland *New York Boston Washington Tech Center	NE AD Sector NE AD Sector	Osama FACSAC
34 Salem	12/1(TAC) 2/0(WSMC)		*Seattle	NW AD Sector	WSMC
35 San Pedro	12/1	1(UHF-USCS)	*Los Angeles	SW AD Sector	USCS San Diego FACSAC
36 Silver City	6/1	1(UHF-USCS)	*Albuquerque	SW AD Sector	USCS
37 Slidel	6/1	1(UHF-USCS)	*Houston	SE AD Sector	
38 Sonora	0/0		*Houston Ft Worth Albuquerque	SW AD Sector	
39 Tyndall	12/2	1 (UHF-USCS)	*Jacksonville	SE AD Sector	81 RCS 3625 ITS
40 Watford City	10/1		*Minneapolis Salt Lake City	NW AD Sector	
41 Whitehouse	12/1	1(UHF-USCS)	*Jacksonville	SE AD Sector	Jacksonville FACSAC
42 Cudjoe Key				SE AD Sector	CARIBROC US Customs Miami
43 Gibbsboro				NE AD Sector	

GENERAL PURPOSE (new) 177

FORM AF SEP 77 3136

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U.S. GOVERNMENT PRINTING OFFICE: 1981-000-000-0000

FAA & USAF SITE CONFIGURATIONS (CONUS)					
LOCATION	MILITARY SINGLE /MULTI CHANNEL UNF RADIOS	OTHER RADIOS	FAA	AD/ROCC	OTHER
44 Lake Charles	6/1			SE AD Sector	
45 Pt Arena	12/1			NM/SW AD Sector	MSMC
46 Mt Lemmon AZ	6/1				
47 Laughlin TX	6/1				
48 Vandenberg CA	12/1				

Note 1: Barrington (CE ROCC Site) provides radar data and radio services (4-UNF) to ME AD Sector

Note 2: CFS Holbert (CE ROCC Site) provides radar data to NM AD Sector

Note 3: There are 7 USAF GAG Only sites in CONUS (Hayes/Bearpaw, Laughlin, Lockport, McChord, McGuire, Mt Lemmon, Vandenberg)

Note 4: Sites 42-45 are TAC (military only) sites

FAA & USAF SITE CONFIGURATIONS (ALASKA)			
LOCATION	MILITARY SINGLE /MULTI CHANNEL UHF RADIOS	LOCATION	MILITARY SINGLE /MULTI CHANNEL UHF RADIOS
1 Cape Lisburne	5/1	15 Pt Barrow	6/0 4 VHF 2 HF
2 Cape Wenhaven	5/1	16 Oliktok	6/0 4 VHF 2 HF
3 Cape Romanzof	5/1	17 Point Lay	6/0 4 VHF 2 HF
4 Cold Bay	7/2	18 Barter Island	6/0 4 VHF 2 HF
5 Fort Yukon	7/2		
6 Galena	9/0		
7 Indian Mtn	8/2		
8 Kenai	0/0		
9 Kotzebue	6/1		
10 King Salmon	12/0		
11 Murphy Dome	8/2		
12 Sparrevohn	8/2		
13 Tatalina	9/2		
14 Tin City	5/1		
Note 1: The Alaskan ROCC and Anchorage ARTCC have access to all site radar data.			
Note 2: All sites except Kenai have 3 VHF radios and 2 HF radios			

AF FORM 77 3136

GENERAL PURPOSE (100-107)

U.S. GOVERNMENT PRINTING OFFICE: 1981-0000000000





7/8/91

6430.2 CHG 32  
Attachment 74

Gibbsboro, NJ, Planning Document

Attachment 22

JOINT RADAR PLANNING GROUP (JRPG) PLANNING DOCUMENT  
BETWEEN  
UNITED STATES AIR FORCE  
AND  
FEDERAL AVIATION ADMINISTRATION  
FOR  
TRANSFER OF THE JOINT USAF/FAA RADAR SITE  
AT GIBBSBORO, NEW JERSEY

WHEREAS, the President and the Congress have directed that the Federal Aviation Administration and the United States Air Force should effect economies in their operations by mutual use of radar assets, and

WHEREAS, such mutual use of radar assets also is intended to favorably affect the rate of Federal power consumption and the national ecology by substantially reducing the number of facilities requiring energy, use of public lands, and the propagation of radar emanations in the atmosphere, and

WHEREAS, to accomplish these ends, the Federal Aviation Administration, hereinafter referred to as the FAA, is in a position to furnish directly or by contract, supplies, equipment and services which the United States Air Force, hereinafter referred to as USAF, requires, has funds available for, and proposes to obtain from the FAA, and

WHEREAS, Section 501 of the Economy Act of 1932 (31 U.S.C. 1535) and Section 302(k) of the Federal Aviation Act of 1958 (49 U.S.C. 1344), authorize the furnishing of such services by FAA to USAF on a reimbursable basis;

NOW, therefore, the USAF and FAA mutually agree that this document is for planning purposes only. It is intended to outline the USAF and FAA position on the transition of Gibbsboro and to map out future plans and projects that must be accomplished and problems that must be solved before the takeover can be accomplished. Details of the site and the work to be done will be contained in various plans and approved by both parties identified in Article IV. This document will be attached to JRPG minutes #74, and upon signature of the JRPG minutes, will constitute an official commitment by the USAF and FAA.

ARTICLE I - Title and Description of Program

The program outlined by this document shall be titled Gibbsboro Joint USAF/FAA Radar Site. Data from this radar site will be used by the FAA in support of the National Airspace System and by the USAF for peacetime air surveillance of approaches to U.S. air space along the northeast coast. The site is presently USAF owned and operated and will be transferred in part to the FAA with General Services Administration (GSA) approval.

ARTICLE II - Environmental Analysis

The USAF will develop all environmental impact analyses for reducing the Gibbsboro radar site from a force of approximately 10 to a force of approximately 7 personnel.

ARTICLE III - Program Management

The Deputy Chief of Staff, Plans, Tactical Air Command (TAC/XP) and Federal Aviation Administration, Eastern Region, Airways Facilities Division, have overall management responsibility for implementing the Gibbsboro Joint USAF/FAA Radar Site Program. Joint use matters pertaining to operational FAA/USAF sites are under the authority of the JRPG; therefore, the operation and maintenance of electronic equipment at the Gibbsboro site will be under the authority of the JRPG.

ARTICLE IV - Coordination

Coordination will be as outlined in the NAT-820 MOA between FAA and DOD. The final approval authority for implementation plans, site surveys and program support agreements (PSAs) for the USAF is TAC/XPPF and for the FAA is FAA/ASM-103 and ANR 140.

ARTICLE V - Equipment Installations and Relocations

1. Equipment installation will be as outlined in the PSA as mutually agreed.
2. FAA and USAF will participate in joint testing, evaluation and commissioning of radar, computers, and associated equipment, when required.

ARTICLE VI - Civil Engineering

1. Civil engineering support will be as outlined in the PSA.
2. The FAA Eastern Region will program, design and construct/alter those facilities required for ARSR-4 joint use. The USAF and FAA will participate in the review of plans and specifications for construction/alteration.
3. The USAF will transfer to the FAA sufficient real estate for the FAA to accomplish the joint mission. As a goal the transfer will occur after the existing radar is removed but prior to the start of site preparation for the ARSR-4.
  - a. The USAF will issue permitted rights-of-entry to the FAA 60 days subsequent to vested rights-of-entry. Such rights of entry will remain valid until transfer of property is finalized.

b. The USAF will retain real property accountability for the FAA-permitted land and any required land or easements until transfer is complete IAW para 3. FAA will assume support liabilities/obligations for those structures and utilities located on/within the permitted lands prior to its transfer. Assumption date will be as mutually agreed but must be prior to alterations/modifications to existing structures and utilities. Excess real and personal property will be disposed of by USAF.

4. The FAA will reconfigure buildings and utilities (e.g., sewage, water, electrical power, etc.) as required by the Gibbsboro PSA, to support the new ARSR-4 radar. Work required will be included in various installation plans and funded as stated in the PSA.

#### ARTICLE VII - Logistics and Administrative Support

Logistic and administrative support will be as outlined in NAT-820.

#### ARTICLE VIII - Operations and Maintenance

Operations and maintenance support will be managed by FAA Eastern Region. Operational downtime during the transfer will start with the AN-FPS-117 removal and end with the ARSR-4 radar commissioning. To replace this radar data loss during transition, the USAF will establish a data tie from the Trevoze radar to the Northeast Air Defense Sector SOCC.

#### ARTICLE IX - Communications Circuits

Communications circuits will be as outlined in PSA.

#### ARTICLE X - Manpower

No new manpower authorizations will be transferred from USAF to FAA.

#### ARTICLE XI - Training

Training will be as outlined in JRPG ground rules.

#### ARTICLE XII - Transfer of Equipment/Real Property

Transfer of equipment/real property will be as outlined in NAT-614.

#### ARTICLE XIII - Reimbursement, Performance and Accounting Arrangements

Reimbursement, performance and accounting arrangements will be negotiated by JRPG.

ARTICLE XIV - Liability

1. In accordance with applicable law, each party assumes full responsibility for injury to or loss of life of its own personnel in the course of work under this document.
2. Each party assumes full responsibility for damage to or loss of its own equipment or material in the course of work under this document.
3. In accordance with applicable U.S. law, each party will be responsible for settlement of claims arising from acts by its personnel which result in third party property damage, personal injury, or death in the course of work under this document.

ARTICLE XV - Amendment

Any change in the supplies, equipment or services to be furnished with respect to the proposed implementation and follow-on operations of the Gibbsboro site shall be formalized by an appropriate written amendment to this document which shall outline in detail the exact nature of the change. Said document will not become effective until appropriately signed by the DOD and FAA JRPG cochairmen.

ARTICLE XVI - Revocation

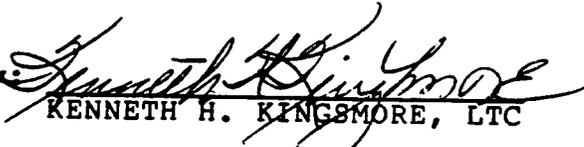
This document may be revoked by either party with at least 24 months notice in writing.

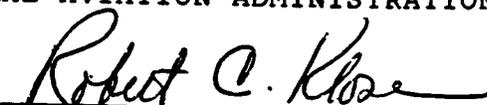
ARTICLE XVII - Effective Date

1. This planning document is effective upon date of last signature.
2. The FAA and USAF agree to the provisions of this document as indicated by the signatures of their duly authorized JRPG Cochairmen.

UNITED STATES AIR FORCE

FEDERAL AVIATION ADMINISTRATION

By:   
KENNETH H. KINGSMORE, LTC

By:   
ROBERT C. KLOSE

TITLE: JRPG CO-CHAIRMAN

TITLE: JRPG CO-CHAIRMAN

DATE: 24 July 90

DATE: 7/24/90



7/8/91

6430.2 CHG 32  
Attachment 74

Data Restoration/Troubleshooting of Telco Lines

Attachment 23

Data Restoration/Troubleshooting of Telco Lines

Under full communications service, the Government (USAF/FAA) agreed to participate in data circuit troubleshooting at the sensor sites subject to the following stipulations:

1. Under no circumstances will Government personnel be asked to repair defective contractor equipment.
2. Neither the Government nor any Government personnel will be liable for any damages or loss resulting from actions taken while assisting the contractor in troubleshooting via telephone.
3. Assistance will be on an "as available" basis with other Government maintenance activity taking precedence. The Government will in no way be responsible for maintenance delays due to nonavailability of Government personnel.

FAA agrees to accept the additional workload.